

ANYNODE 4.8 OFFERS NEW FEATURES AND IMPROVEMENTS

New features that improve working with anynode in every aspect.
Increase performance and security for your customer projects.





4.8

ZOOM PHONE

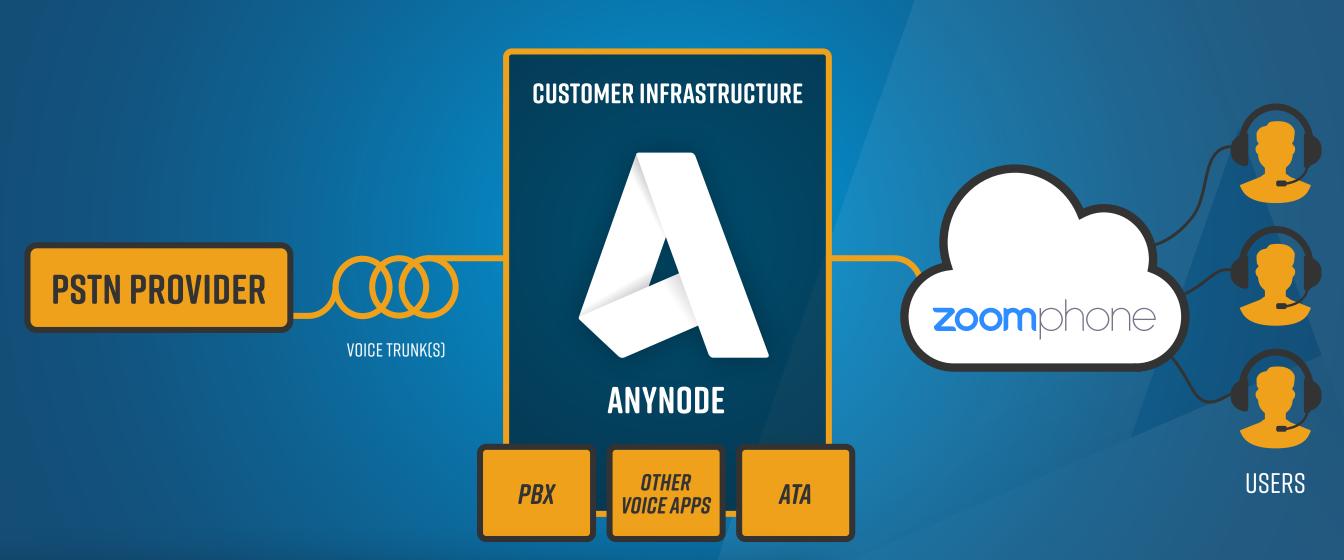
ANYNODE SBC.COM

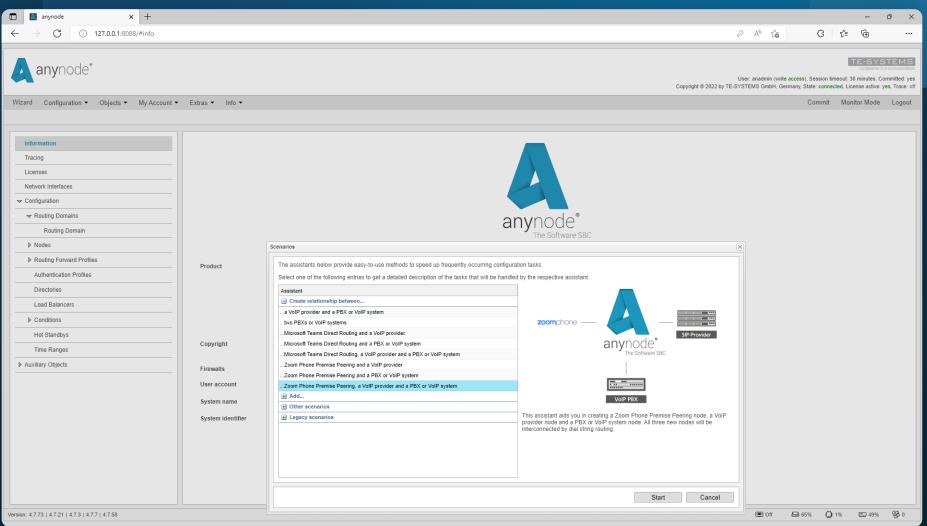
"BRING YOUR OWN CARRIER" WITH ANYNODE

anynode Zoom Phone certification with integrated scenario wizard.

ZOOM PHONE / PREMISE PEERING







Scenario Wizard for particularly common configurations with Zoom Phone.

BENEFITS

- + connect Zoom to your existing PBX
- + easy migration, configuration and deployment
- + deployable worldwide
- + anynode certified for Zoom Phone

Zoom-Phone-Certification

anynode is certified for Zoom Phone Premise Peering (BYOC - bring your own carrier). With Zoom Phone, anynode can be connected to almost any PSTN or connected to third-party PBXs.

Leverage existing PSTN providers with Zoom Phone Premise Peering (BYOC), by moving existing voice lines to the Zoom Phone cloud. Keep existing service provider contracts, phone numbers or calling plans and take advantage of all Zoom Phone benefits and features.

The anynode Wizard makes setting up a variety of different configurations for various scenarios a breeze - clearly laid out and with just a few simple steps. You can find a detailed tutorial video on the topic of "Connect Zoom Phone Premise Peering" on our YouTube channel.



4.8

MICROSOFT OPERATOR CONNECT

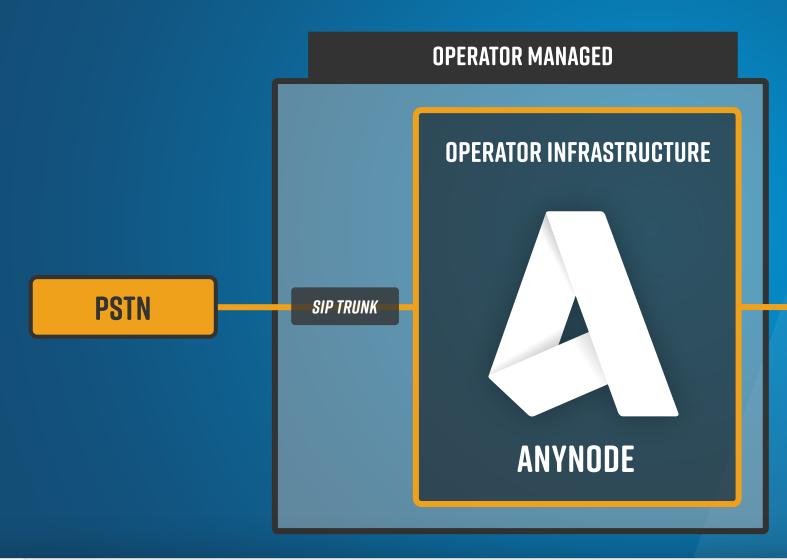
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JUST A FEW STEPS TO THE FINISHED CONFIGURATION

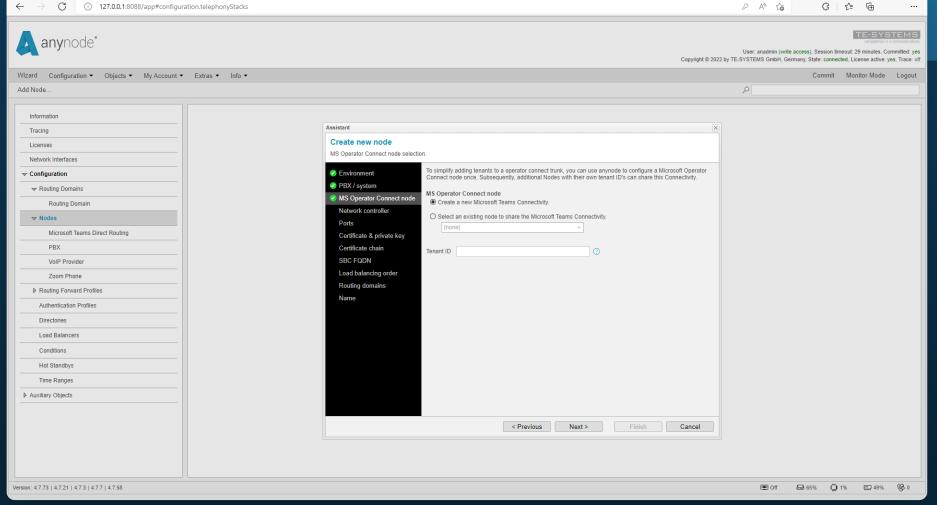
Use the pre-configured system profile for Microsoft Operator Connect for another way to connect to Microsoft Teams.

MICROSOFT OPERATOR CONNECT









Predefined system profile for Microsoft Operator Connect in Node Interconnection Assistant.

BENEFITS

- + easy setup of Teams as a telephone system
- + predefined system profile for Microsoft Operator Connect
- + wizard-supported step-by-step configuration

Microsoft Operator Connect

The existing connection option to Microsoft Teams Direct Routing in the anymode frontend has been extended by an additional predefined system profile for Microsoft Operator Connect.

The configuration work is done by the Node Interconnection Assistant in just a few minutes: Ports, SBC FQDN and target systems for the load balancing connection are automatically determined and entered by the Assistant. This step-by-step configuration ensures that no essential settings are overlooked.



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AZURE COMMUNICATION SERVICES

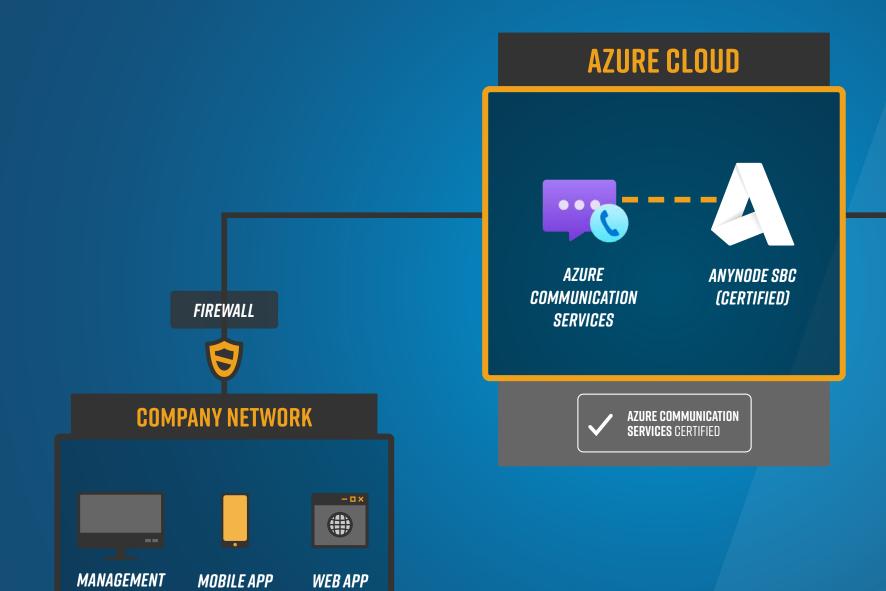
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CERTIFIED FOR AZURE COMMUNICATION SERVICES DIRECT ROUTING

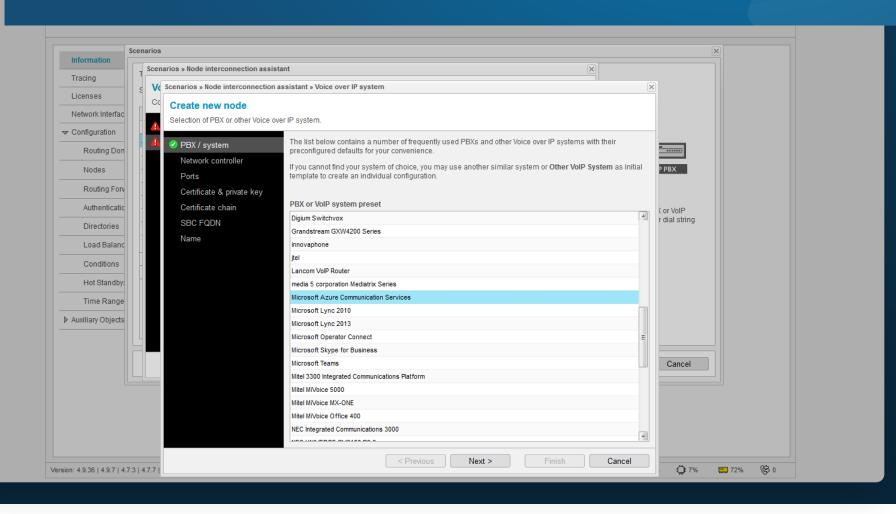
Use the anynode ACS Node Assistant to easily connect communication solutions to existing, SIP-based telephone systems or directly to your own provider.

ANYNODE SBC / AZURE COMMUNICATION SERVICES









USER

Predefined system profile for Microsoft Azure Communication Services in Node Interconnection Assistant.

BENEFITS

- + Integration of voice and video calls, rich text chats, SMS and e-mails into your application
- + easy connection to existing systems with the anynode ACS Node Assistant
- + anynode is certified for Azure Communication Services

Azure Communication Services Certification

In addition to Microsoft Teams Direct Routing, anynode is also certified for Microsoft Azure Communication Services Direct Routing. Azure Communication Services (ACS) are cloud-based services with REST APIs and client library SDKs that help add communication capabilities to applications. ACS allows applications to add communication elements without having to learn about underlying technologies such as media encoding or telephony. ACS supports voice and video calls, rich text chat, SMS and email.

anynode offers its own node wizard for this service, which makes it very easy to connect communication solutions developed for ACS to existing SIP-based telephone systems or directly to your own provider.





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DIAL STRING REWRITING IMPORT AND EXPORT

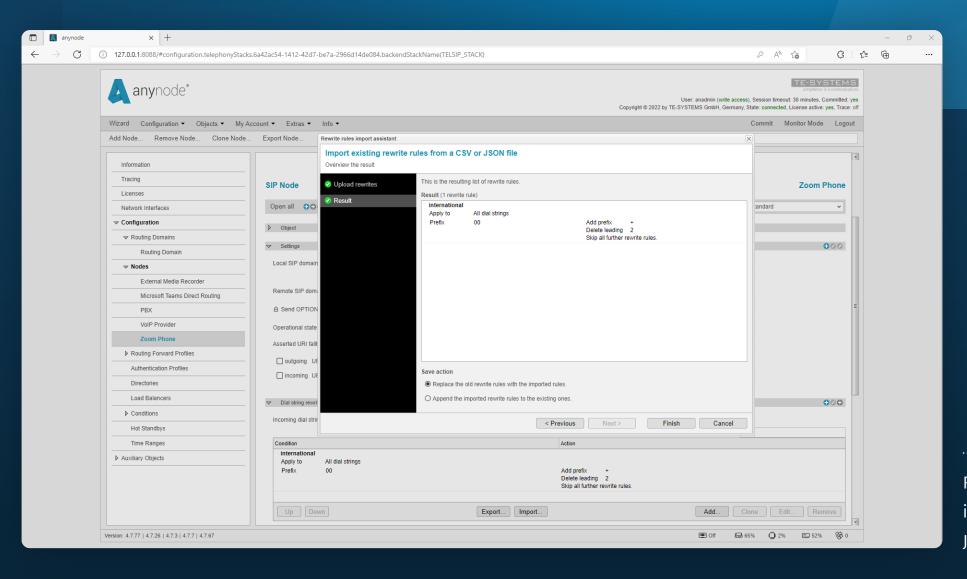
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EXPRESS REWRITING

Export complex dial string rewrites and import them into other nodes.

DIAL STRING REWRITING AND ROUTING





Rewrite Rules Import Assistant with imported dial string rewritings in JSON format.

BENEFITS

- + Reuse of complex dial string rewritings in other nodes
- + Wizard-assisted import and export
- + JSON format with simple machine-readable language
- + Editing possibility with a simple text editor

Dial String Rewriting Import and Export

anynode enables flexible processing of incoming and outgoing source and destination phone numbers with "Dial String Rewriting". By rewriting phone number formats, anynode enables different IP devices to be compatible with each other. All rewrite rules can now be exported to the standardized JSON format with anynode 4.8 for import and reuse in another node.

The "Rewrite-Rules-Import-Assistant" shows all rewrite rules before the final import and can overwrite existing rules or add the newly imported rules to the already existing ones, as desired.

The import of CSV files is still possible. A <u>detailed tutorial</u> <u>video</u> on this topic can be found on our <u>YouTube channel</u>.





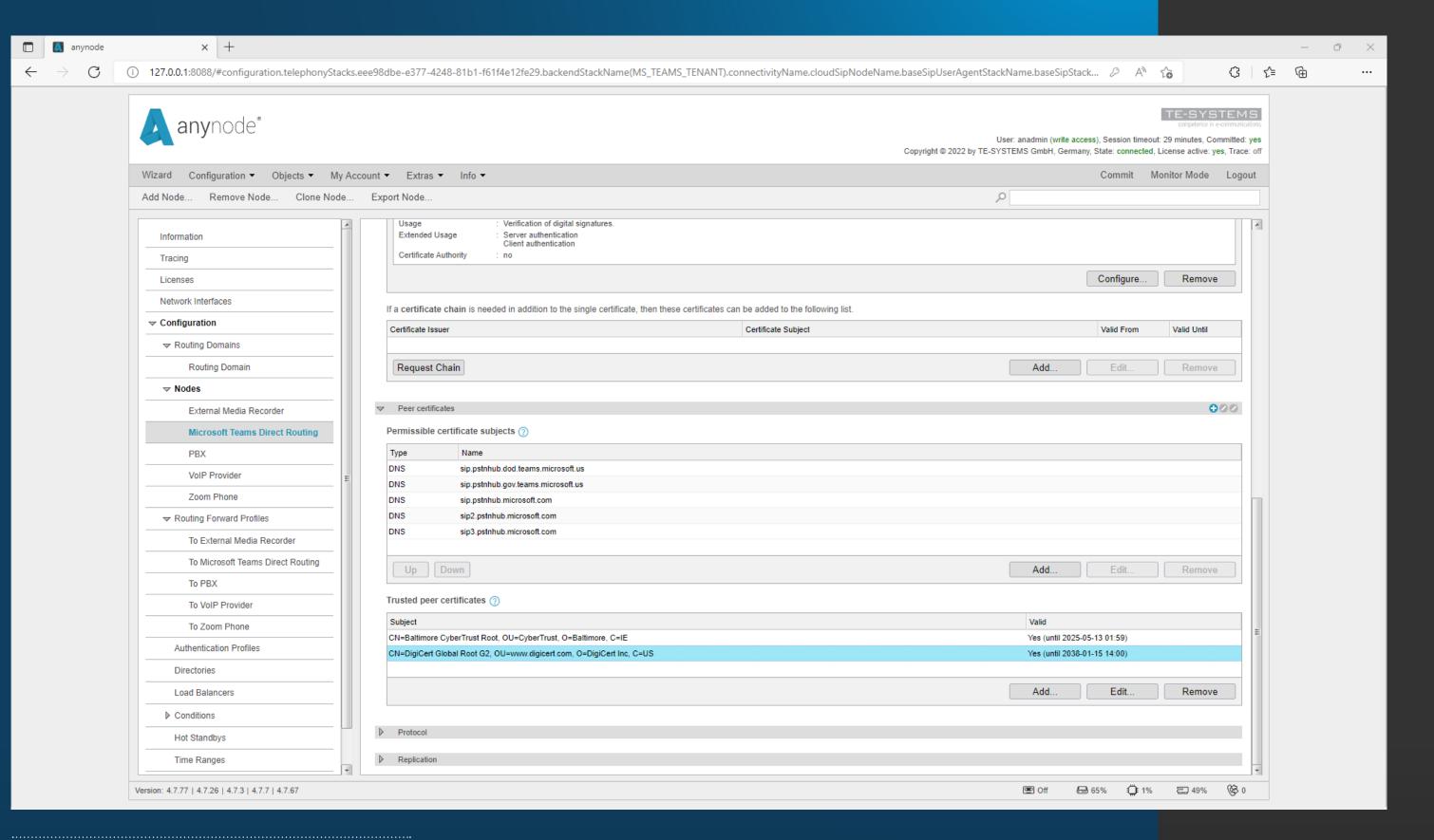
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MIGRATION OF TEAMS CERTIFICATES

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NEW ROOT CERTIFICATION AUTHORITIES FOR MICROSOFT 365 SERVICES

Automatic update with anynode 4.8.



The new root certificate from DigiCert is automatically migrated to the list of Trusted Peer Certificates.

BENEFITS

- + Automatic updating of the Certificate Authority (CA)
- + Compliance with all Microsoft requirements

Migration of teams certificates

In early 2023, Microsoft will no longer have its own certificates, which it will present to anynode when establishing a TLS connection, signed by the Baltimore CyberTrust Root CA, but by the DigiCert Global Root CA.

For the connection to work both now and after the switch, both root CA certificates must be entered in anynode's Trusted Certificates list.

anynode 4.8 does this for you using the migration wizard. The new root certificate from DigiCert is automatically migrated to the Trusted Peer Certificates list. So with anynode 4.8, you don't need to do anything else.

We strongly recommend that users of older anynode versions should manually add the new root certificate to the Trusted Peer Certificates to prevent unnecessary failures.





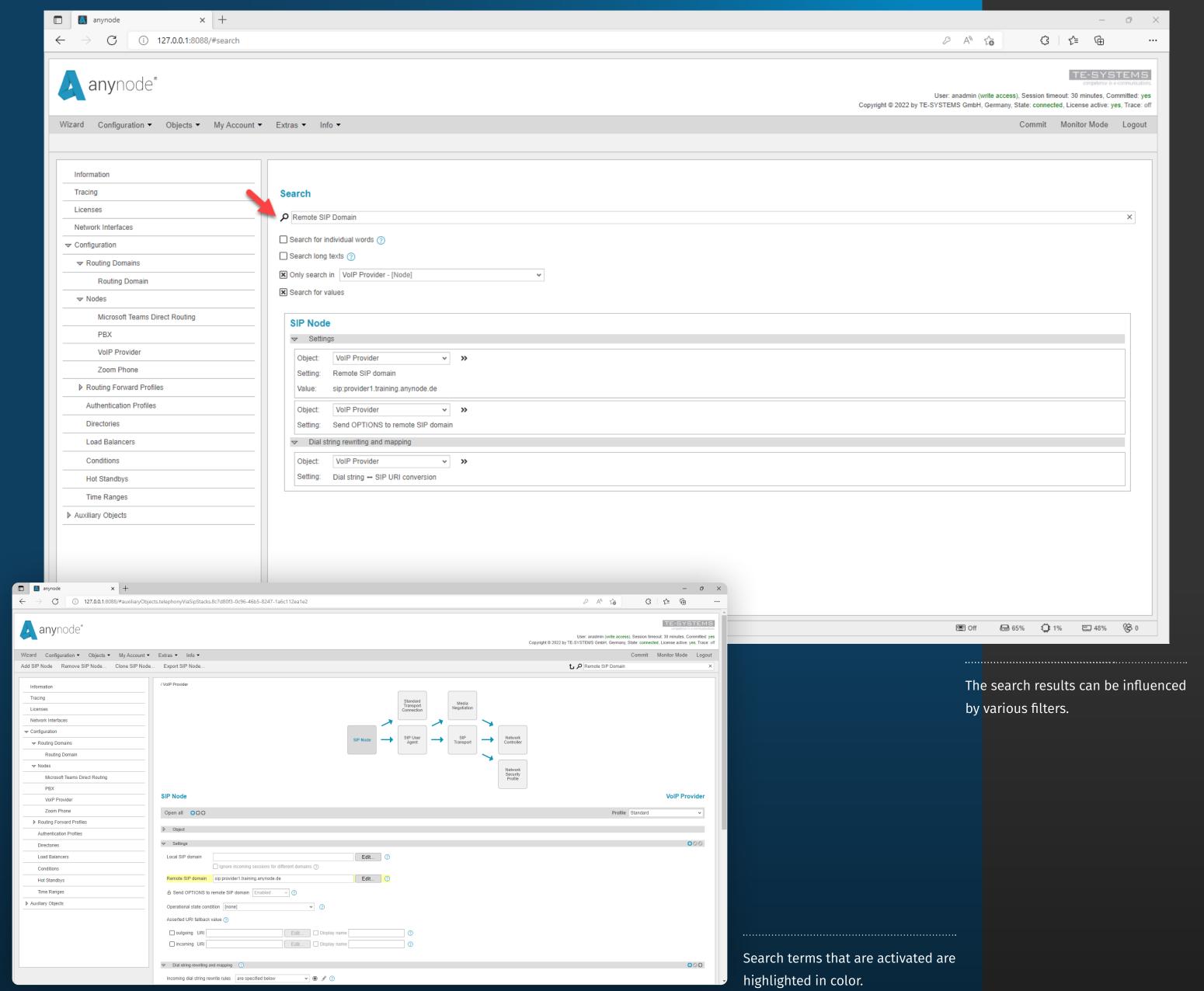
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SEARCH FUNCTION

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FINDING INSTEAD OF SEARCHING

Find exactly the setting option you need in seconds when configuring anynode.



BENEFITS

- + fast finding of setting values and functions in the objects
- + filter function for more precise search results, e.g., in a specific node
- + Marking of search results in the frontend

Search function

From now on, the new search function is a tool that supports you in setting up your configuration:

With the new search function, you can find out in seconds in which object you can change the remote SIP domain of your provider, for example: simply enter the search term and jump directly to the desired location in the frontend via the search results, with the relevant locations in the application highlighted in yellow.

The search is always accessible at the top of the application and can be made more precise by using various filters. For example, a specific node, routing forward profile or condition can be selected for a search. Another application example is the search for port 5060 to determine which node uses this port.





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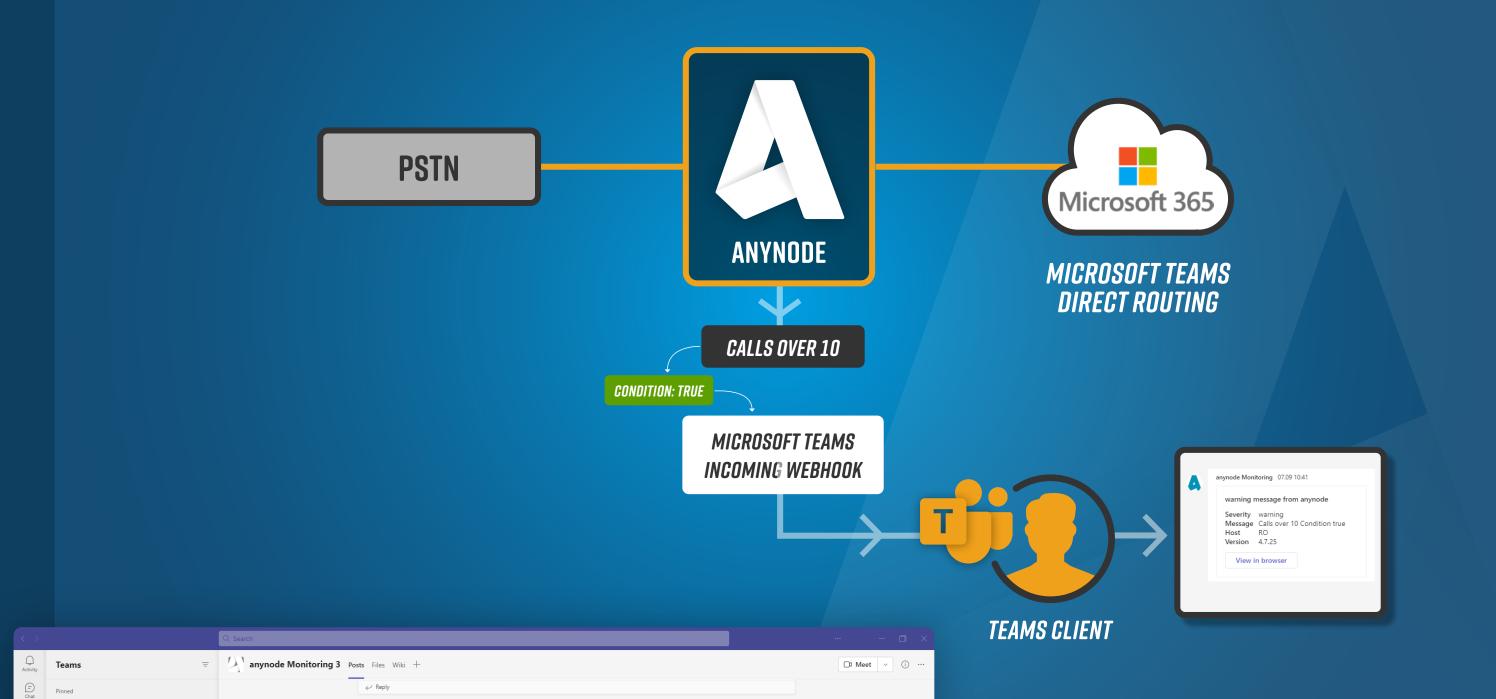
CONDITIONAL EVENTS

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EVENT-LOG Á LA CARTE

Create your own conditions for events worth mentioning. Using Event Transport, these can be sent as a push message in Teams Chat or via SMS.

CONDITIONAL EVENTS / MICROSOFT TEAMS INCOMING WEBHOOK



Event Transport of a Conditonal
Event via Microsoft Teams
Incoming Webhook to a
Teams client.

BENEFITS

- + Triggering of self-created conditional events, e.g., number of sessions
- + Display as warning, information or error message with event transport push notification via Microsoft Teams chat, SMS or e-mail

Conditional Events

Under "Events" in "Monitor Mode" you can view all events related to your anynode. For example, restarts of anynode services or network failures are logged here.

anynode 4.8 now allows to log conditional based events in the event log.

For example, create a conditional event for when the number of sessions on a particular node exceeds 10 and specify whether the event should be considered a warning, information or error message.

In addition, you have the option to configure corresponding notifications as push messages as well. For example, as a chat message in Microsoft Teams, as an SMS or e-mail.



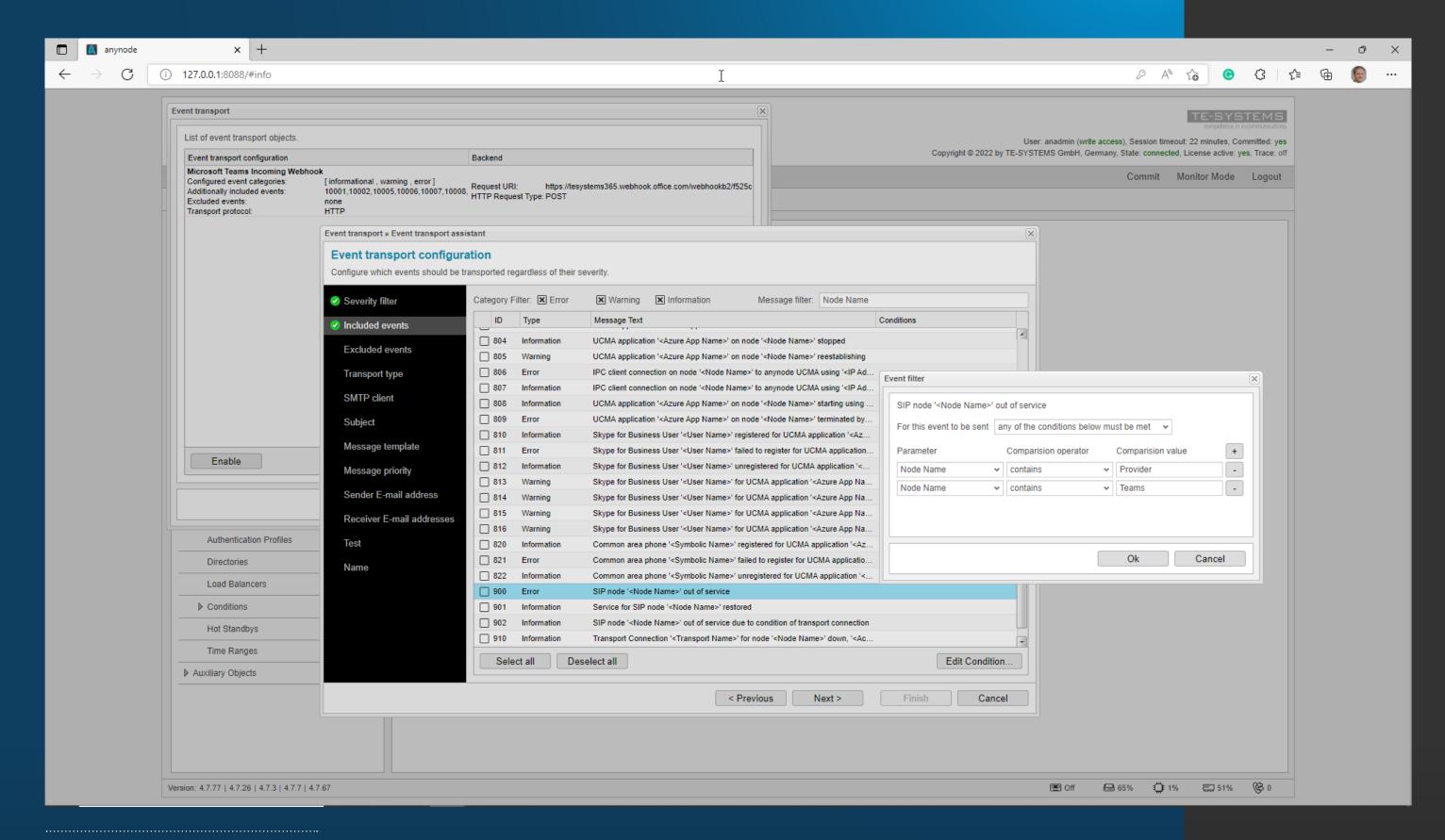


NEW EVENT FILTERS

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FILTERING INSTEAD OF FLOODING

Use new filter options for the event log and event transport.



Event filter on a specific node for the event transport.

BENEFITS

- + comfortable filter function
- + multiple conditions for an event transport configurable
- + determination of a special node for an event transport

New Event Filters

With anynode 4.8, entire lists of events can now be included or excluded. With the "Message-Filter" selected events can be written into the event log. This greatly simplifies the search for specific events.

This also applies to the event transport. Here, for example, a specific node can now be determined that triggers an error message in the event of a failure.

With this new feature, the quality and number of event messages can be set individually, so that you can focus on the events that are important to you.





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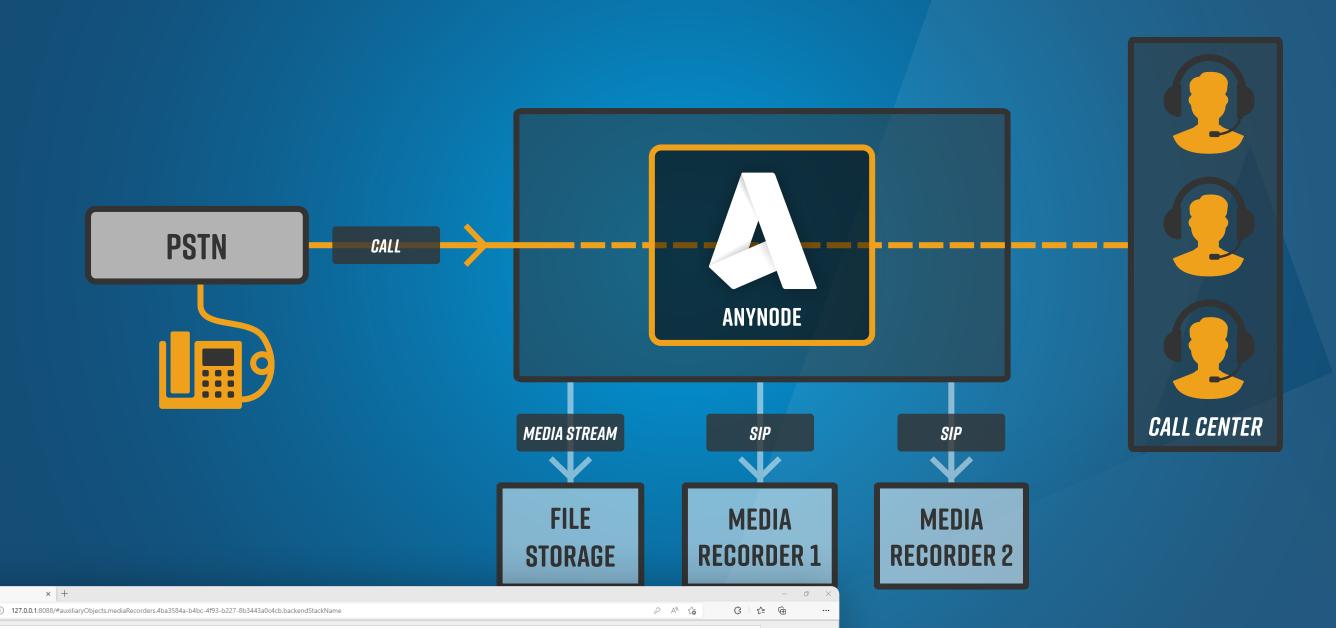
REDUNDANT MEDIARECORDING

ANYNODE SBC.COM

ATTENTION, RECORDING!

Configure multiple media recorders for secure voice recording.

MEDIA RECORDING / REDUNDANT FILE RECORDER



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It is now possible to use the Media Recording Multiplexer function to set up multiple destinations for external recording solutions at the

BENEFITS

- + fail-safe due to redundant voice recording
- + individual options for recording
- + wizard-supported configuration

Redundant Media Recording

There are many applications:

- + Legal evidence in case of threatening calls
- + Measurement and assurance of service and call quality
- + Process and quality optimization
- + training and coaching

In addition to simple file recording, anynode supports call branching to many recording solutions. Multiple recorders can now be addressed simultaneously. Calls can be recorded simultaneously by anynode and multiple external recording solutions.

Here, the anynode Media Recording Assistant with its multiplexer function offers a simple and clear way to configure multiple external recording solutions. For example, a law firm can thus configure voice recording to two different external recording solutions to ensure increased recording reliability.





4.8

MUTE/UNMUTE MEDIARECORDING

ANYNODE SBC.COM

SPEECH IS SILVER, SILENCE IS GOLD

Use muting to protect sensitive data during voice recording.

MEDIA RECORDING / MUTE AND UNMUTE

Import-Module "C:\Users\Documents\dev_svn\anynodefe_dev\de.tesystems.anynodefe\rest-lib\powershell\anynode_rest_dev.psm1"

\$Identification = Search-anynodeForwardedSessionRecordingIdentifier -Address \$AnynodeAddress -Port \$AnynodePort -Credential \$Cred -SipCallId \$SipCallId \$Output=(-join \$Output, \$Identification)

\$Mute = Set-anynodeForwardedSessionRecordingMute -Address \$AnynodeAddress -Port \$AnynodePort -Credential \$Cred -Identifier \$Identification -Mute \$true

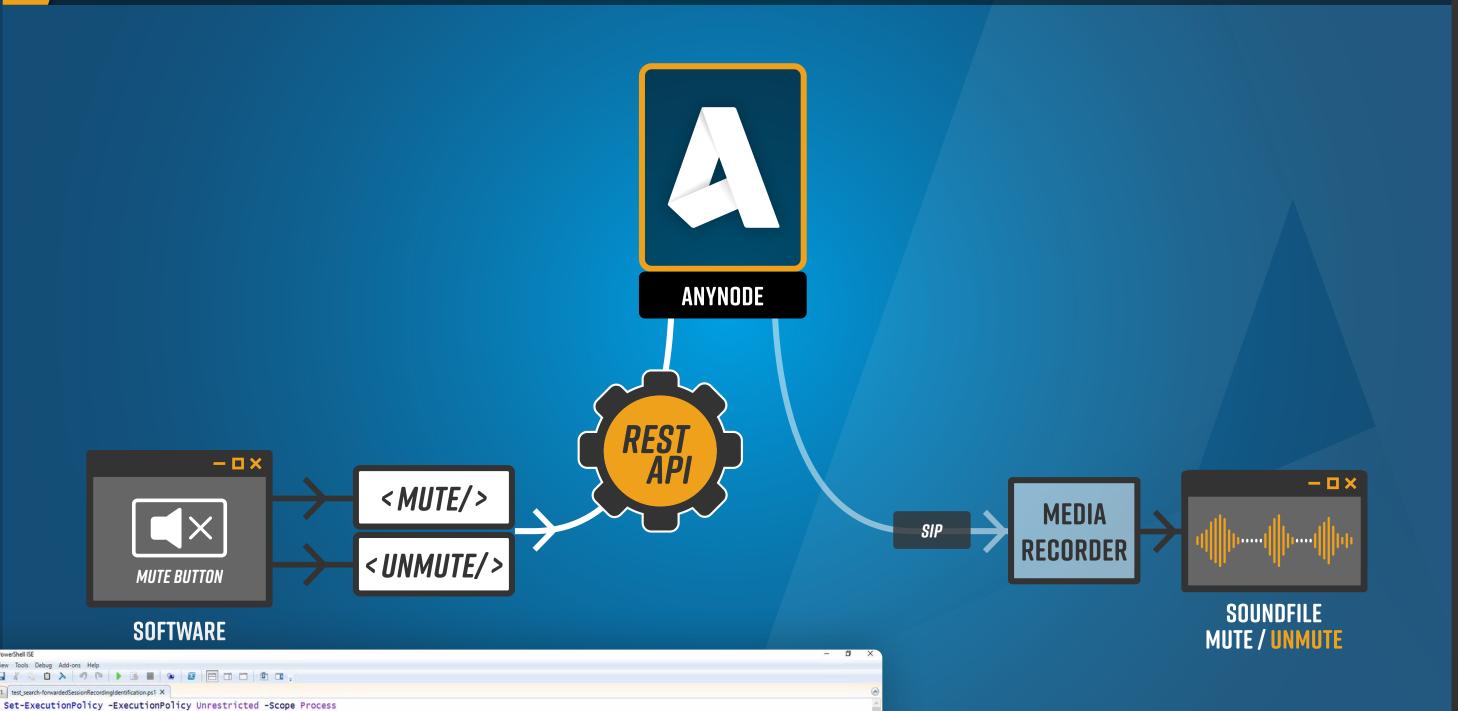
\$SipCallId = '6BAC53A7EF01D8F10AA7E6975A7B851397A7431270@127.0.0.1'

PS C:\Users\ C:\Users\Documents\Testing\test_search-forwardedSessionRecordingIdentification.ps1 CE6ED75B02EAACCCCE13118747BD16AB

--- Start of script -----

\$.Exception

PS C:\Users\



PowerShell executed script for muting an audio recording using the Call ID.

BENEFITS

- + mute voice recording for sensitive data
- + controllable via REST
- + Integration into external applications possible

Mute / Unmute Media Recording

With version 4.8, the anynode Media Recorder now allows sensitive data to be muted during a recording via the REST interface.

This means that even less experienced users can use the function in anynode via external applications. Direct access or special anynode knowledge is not necessary here.





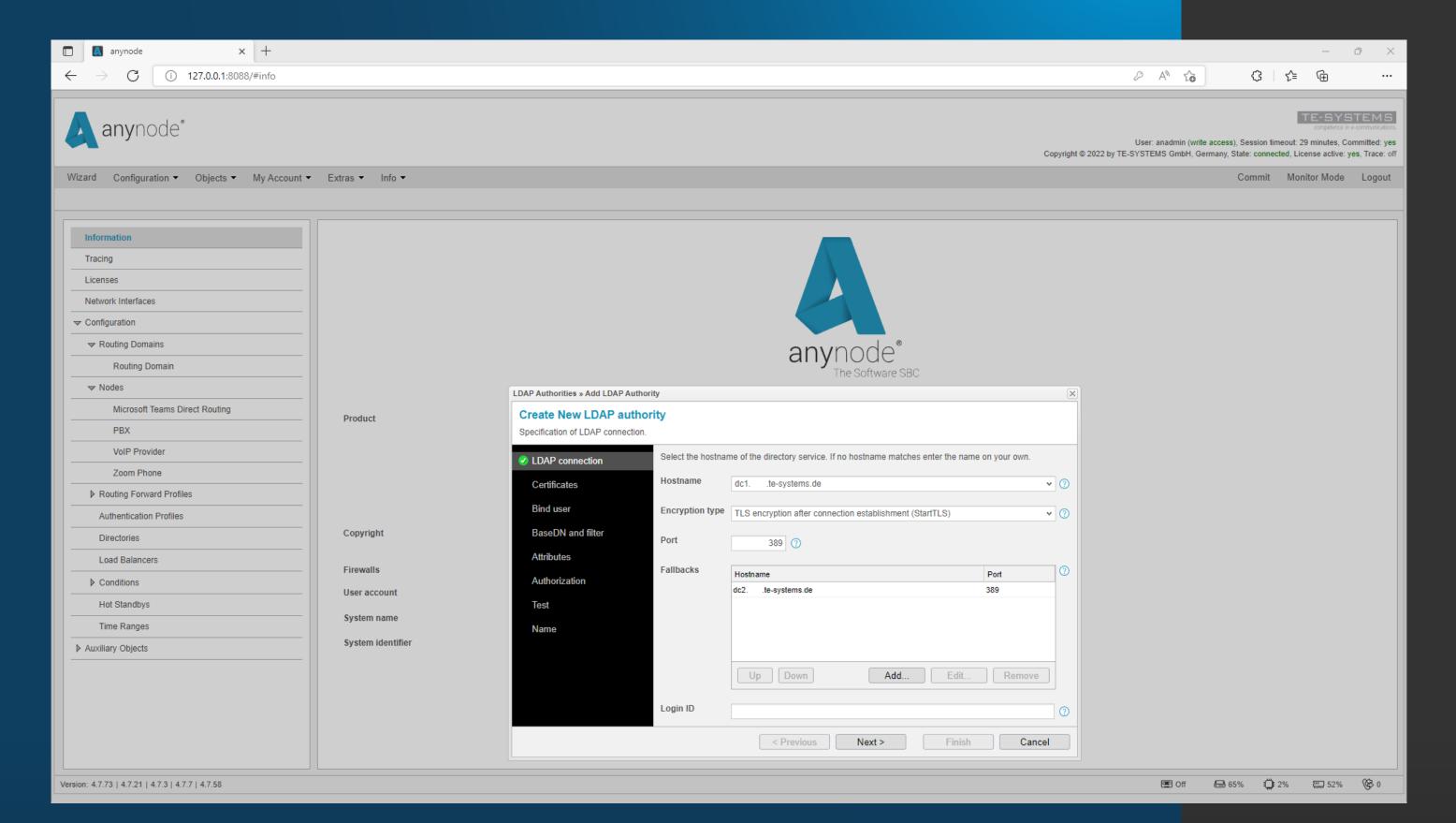
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LDAP AUTHORITY SERVER FALLBACKS

ANYNODE SBC.COM

DON'T LOCK YOURSELF OUT!

Safeguard your access to the anynode frontend and configure fallback servers for login.



LDAP Authority Wizard with Configuration of a fallback option.

BENEFITS

- + increased fail-safe access security of the anynode frontend
- + wizard-supported configuration
- + multiple hostnames possible

LDAP Authority Server Fallbacks

In the anynode LDAP Authority Wizard we have integrated a possibility to set up fallbacks for LDAP user authentication. This increases the reliability of access to the anynode frontend. In addition, multiple hostnames can now be configured to be processed chronologically if the primary hostname is not working.





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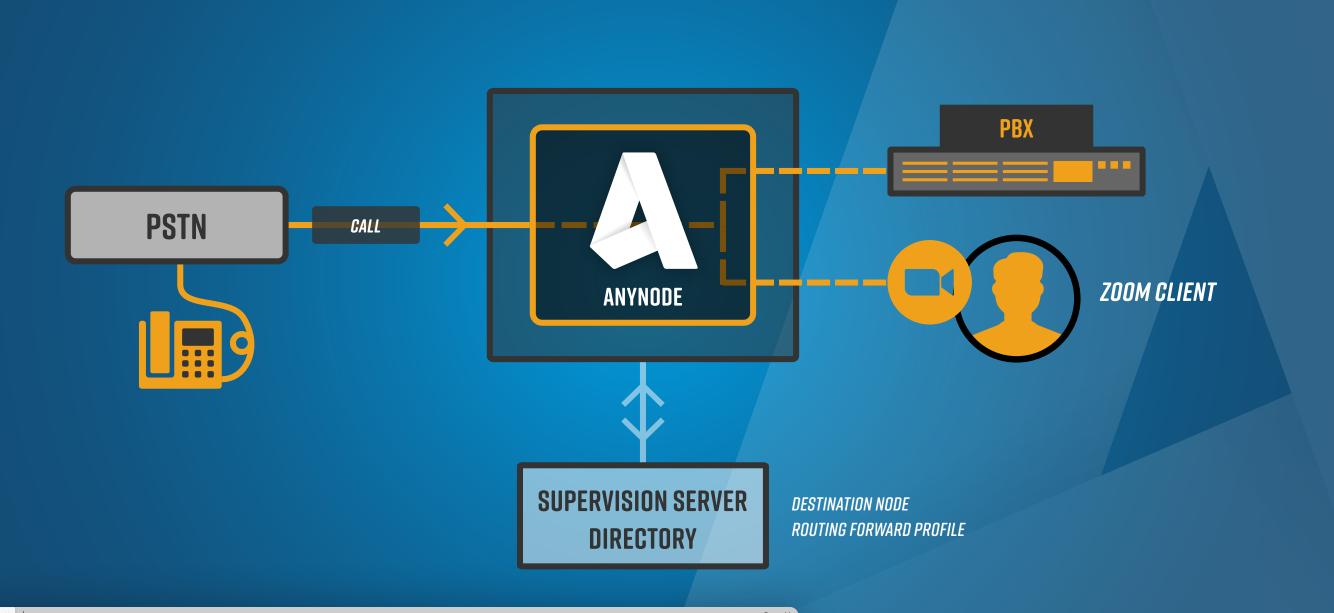
ANYNODE SUPERVISION

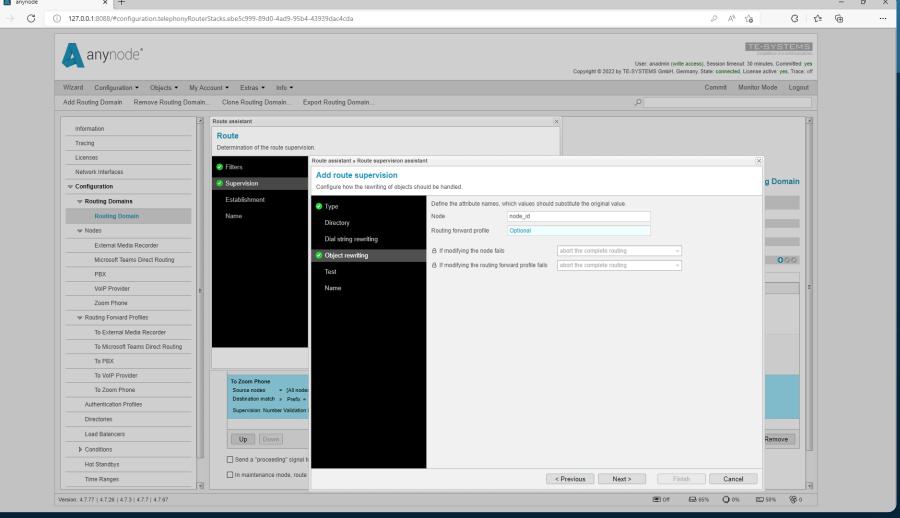
ANYNODE SBC.COM

THE SMART WAY TO ROUTE

Use a Supervision Server or Route Supervision Directory and externally specify the routing destination.

SUPERVISION / DEFINE DESTINATION NODE WITH EXTERNAL DATABASE





New object rewriting function with the definition of the attribute name for the node.

BENEFITS

- + dynamic selection of the destination node
- + external determination of the routing destination
- + support of supervision servers and route supervision directories

anynode Supervision

anynode Route Supervision allows to dynamically select the destination node and the routing forward profile to be used and can thus be determined externally as a routing destination. This works both when using a Supervision Server and with Route Supervision Directories (SQL, LDAP and Azure AD).





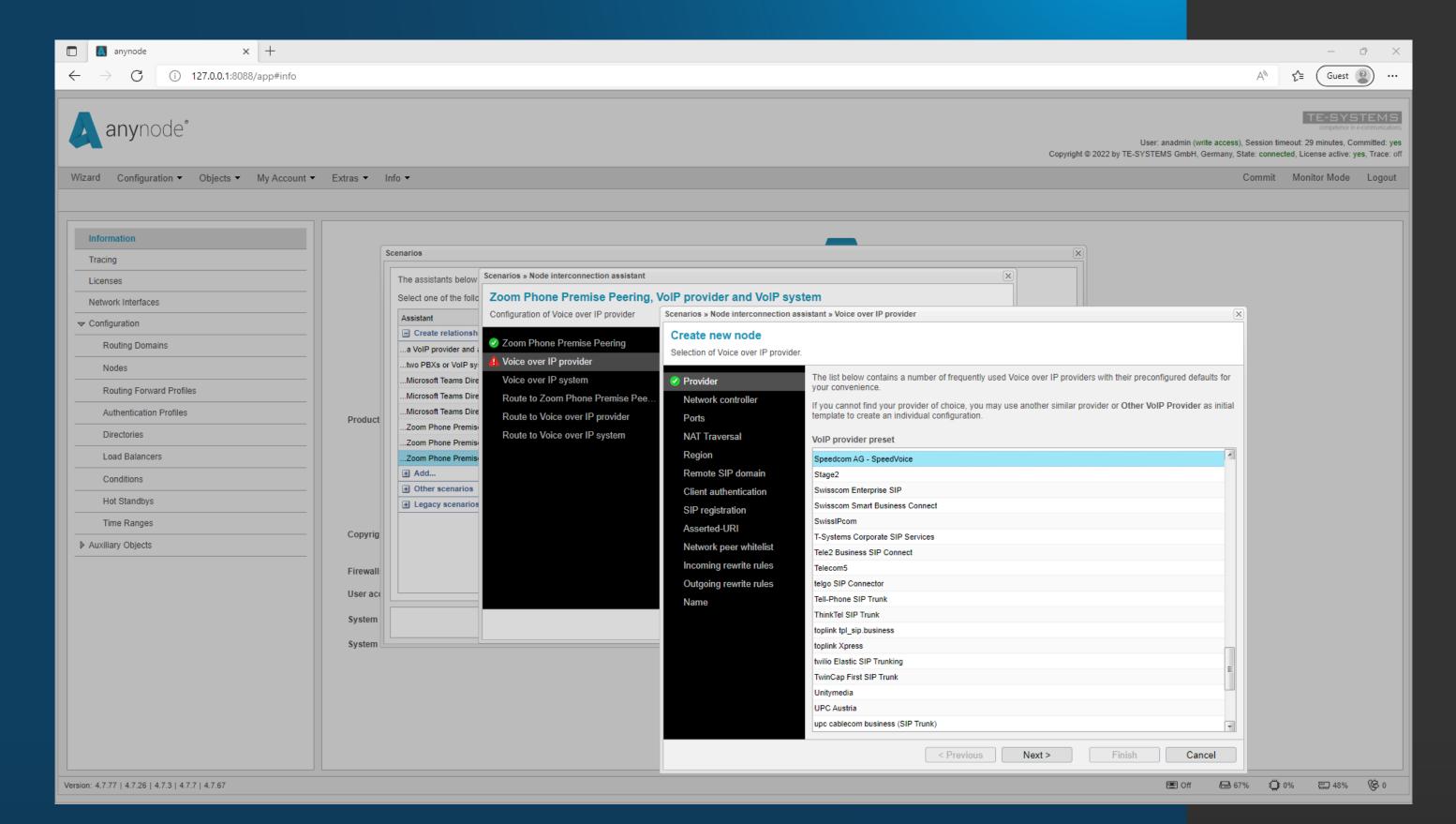
4.8

ANYNODE WYZARD

ANYNODE SBC.COM

EASILY CONFIGURED IN JUST A FEW STEPS

With version 4.8, anynode Wizard offers some new profiles for easy configuration of providers and PBXs.



The Node Interconnection Assistant in the Scenario Wizard contains numerous predefined profiles of providers.

BENEFITS

- + wizard-supported configuration
- + predefined profiles and continuous expansion
- + compatibility with many PBXs and providers
- + automatic determination of input values, e.g. ports, remote SIP domains, etc....

anynode Wizard

With anynode Wizard, particularly frequently occurring configuration tasks can be completed quickly and easily. The integrated Node Interconnection Assistant, with numerous readymade system profiles, telephone systems and SIP providers, ensures complete configuration in just a few steps.

anynode supports the most important standards on the market and is compatible with a wide range of manufacturers. With version 4.8, anynode now also supports the following providers, telephone systems and system profiles:

- + Zoom Phone Premise Peering
- + Microsoft Operator Connect
- + Speedcom AG SpeedVoice (Provider)
- + goetel GmbH (Provider)
- + NTT East, NTT West (Provider)
- + jtel GmbH (PBX)





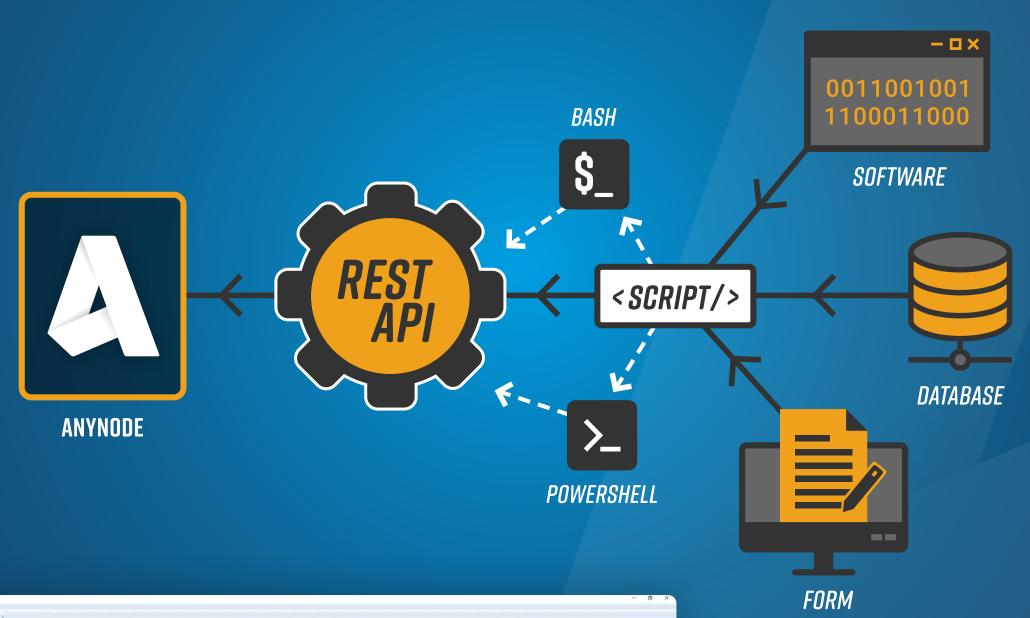
NEW FEATURES FOR DEVELOPERS

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EXCITING FOR DEVELOPERS

In anynode 4.8, Microsoft Teams Survivable Branch Appliance (SBA) users in particular will enjoy new supported commands and query capabilities via the REST API.

REST API / SCRIPTING



```
| Soutput="1" |
```

Retrieving the SBA configuration via PowerShell, e.g. the tenant ID.

BENEFITS

- + Integration of existing backends
- + Automation of processes
- + Sample scripts included
- + PowerShell plugin with REST API functions available
- + Constant extension of supported functions

New Features for Developers

The integration of anymode into existing backends via the REST API interface enables a whole range of configuration and readout options without accessing the graphical interface.

Using the REST API and PowerShell scripts, anynode configurations can be created, controlled and edited in detail automatically and remotely.

Since our first release with a small set of commands, we have added more flexibility to our REST API and PowerShell library. In anynode 4.8, Microsoft Teams Survivable Branch Appliance (SBA) users in particular will enjoy new commands and query capabilities. However, generally useful new functions in the area of dial string rewriting and routing domain are also supported.

Extended help texts

At anynode, special emphasis has always been placed on user-friendliness. At many places in the anynode frontend there are small question marks. If you move the mouse over these areas, additional help texts with explanations of the respective function are opened. These help texts have been extended by about 40 % in version 4.8 and now offer even more help with settings and functions.

Extended Call History Timeout

To support slower systems with large amounts of data, the timeout for loading the call history has been extended: Retrieving the call history may now take up to 3 minutes.

Remembering tabs and detail levels

If desired, anynode remembers whether a tab should be expanded or collapsed and the set detail level. This allows you to customize your frontend on particularly frequently used tabs for quick access and close unused tabs to save space. We would like to point out that if you have a large number of tabs open, the waiting time when opening the frontend increases considerably depending on the system. The function can be activated under "My Account".

Update of the OpenSSL library (version 3.0.7)

The use of current security protocols is a matter of course for anynode: TLS and SRTP are used by anynode for signaling and media exchange, thus ensuring authenticity of the remote station and preventing eavesdropping or manipulation of data.

The freely available open source software OpenSSL implements the necessary symmetric & asymmetric encryption. With the help of the OpenSSL library, private keys can be created in anynode, certificates can be managed and decryption and encryption processes can be carried out. This library has been updated to use the latest version of the API.







USABILITY AND SECURITY IMPROVEMENTS

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Easy to use with security!

The usability and security in the anynode frontend was further expanded and brought up to date.

PERFORMANCE FEATURES / DATA SHEET

Interoperability List: PDF Download

SYSTEM PERFORMANCE

Registrar

User registration

Maximum number of sessions	Single socket E5	VM 4-core
SIP to SIP media bypass	2000	1000
SIP to SIP media relay	1200	800
SIP to SIP media relay secure	1100	720
SIP to SIP transcoding G.711 / G.729	600	400
Calls per second	130	80
Load Balancer		
Calls per second	1000	500

3000

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Transport	
IPv4 to IPv4, IPv4 to IPv6	5, IPv6 to IPv6
UDP, TCP, TLS	
NAT, Port Mapping	
	1//
Signalling	

SIP and SIP secure
H.323 via XCAPI add-on

Media

2000

RTP / SRTP (SDES/DTLS), ICE, ICE lite

Media Pass-through, Media Transcoding, Media Bypass

Transcoding: G.711 a-law, u-law, Opus-NB/WB, G.722, G.729, linear L16, Stereo, multichannel Codecs, SILK-NB/WB

Pass-through/Bypass: e.g. G.711 a-law, u-law, Opus-NB/WB, G.722, G.723,G.729, linear L16, Stereo, Multichannel codecs, T.38, Fax pass-through, H.264, SILK-NB/WB

SECURITY

Voice over IP B2BUA enabled separation of SIP communication Topology hiding TLS and SRTP IP address white lists Comprehensive and easy to use X.509 certificate management

Configuration Interface

Role based user management

LDAP based user & group management

User access logging

Extended security for configuration interface via https and client certificates

Separate network interface for configuration

MONITORING & DIAGNOSTIC

Event Notifications

WMI and SNMP interface

SMTP

REST/HTTP

Windows Event log / Syslog

SQL Server

Powerful log-analysis tool for signaling and media

Overview of system configuration

List of all sessions

Visualized signaling flow with complete signaling data

List of all media streams with indication of packet loss and excess jitter

Visualized audio data with superimposed labels for events

Audio data can be played back and exported

Tracing of marked routes

Online and offline analysis

PERFORMANCE FEATURES / DATA SHEET

ROUTING & DIAL STRING REWRITING

Routing between multiple number of domains

Route Supervision and control via REST

Time-based Routing

Routing based on destination number, source number and redirecting number

Routing based on prefix, suffix, wildcards, extension ranges

Routing based on LDAP/Active Directory and static directories

Routing based on Azure/Active Directory

Routing based on SQL-Databases

Tagging and Enhanced Dial String Rewriting

Conditional routing, rejecting or ignoring of calls

Rewriting of destination number, source number

Rewriting before, during and after routing

Cause/status mapping

Reverse Number Lookup (RNL)

Supports group calls and call forking

Load balancing

Enhanced call transfer implementation

Emergency Location Identification Number (ELIN) support

MANAGEMENT & ADMINISTRATION

Secured web-based management interface

Configuration via REST API

Hot Standby Graphic User Interface

PowerShell and Bash interface

Easy to use interface with helpful hints

Proxy Server Support for Licensing and Updates

Wizard for many common SIP providers and VoIP systems with predefined configuration templates

Administration of multiple anynodes within one configuration interface

Live monitoring with Microsoft Teams Incoming Webhook in channels and teams (e.g., changes to provider nodes)

Monitoring of active sessions, events and call history

Various statistics concerning completed sessions

Quick, cost effective, highly available

Dashboard - live monitoring of critical elements

MICROSOFT TEAMS DIRECT ROUTING

Multi-Tenant Support

Local Media Optimization

Media Bypass (certified)

Certified for E911 with RedSky, Bandwith and Intrado

Analog Devices (certified)

Survivable Branch Appliance

Details about the Microsoft Direct Routing Certification https://aka.ms/dr-sbc

OPERATING SYSTEMS

Windows 10. 11

Windows Server 2022, 2019, 2016, 2012 R2, 2012

Debian 9.4, Debian 10, Debian 11 (Bullseye)

Ubuntu 18.04, Ubuntu 20.04, Ubuntu 22.04

VMware vSphere/ESXi, Microsoft Hyper-V, Citrix XenServer, KVM

Red Hat Enterprise Linux 8

MISCELLANEOUS

Support of multiple simultaneous networks and several SIP Trunks, multiple registrations of SIP Trunks possible

Support of numverify and Real Phone Validation services

Registrations of SIP Trunks

Load balancing based on CPU load

Monitoring of active sessions, events and call history

Numerous SIP providers & VoIP systems on our Interoperability List

Microsoft Lync 2013 qualified, Microsoft Lync 2010 qualified

Skype for Business supported by Microsoft

ZOOM Phone certified – Bring Your Own Carrier (BYOC)

Media Recording

Master/Client Replication

Hot Standby

FULL FEATURED
SBC LICENSE



10 SESSIONS
CONFIG WIZARD
FREE SUPPORT

BECOME AN ANYNODE PRO

ANYNODE® ACADEMY

... AND JOIN THE A-TEAM!

EXTENSIVE **ONLINE WORKSHOPS** FOR

- + IT-PROFESSIONALS
- + ADMINISTRATORS
- + RESELLERS
- + OR SYSTEM VENDORS

TE-SYSTEMS Inc.

38 Montvale Ave., Suite 360 Stoneham, MA 02180

United States

google maps

+ 1 (781) 850-4118

sales@te-systems.com

TE-SYSTEMS GmbH

Max-von-Laue Weg 19 38448 Wolfsburg

Germany

google maps

+49 5363 8195-0

sales@te-systems.de

Office Hamburg

Mittelweg 144

20148 Hamburg

Germany

google maps

+49 5363 8195-0

sales@te-systems.de

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