



# Condor Technologies

Corporate Presentation

2021

# 18 years

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18 years enabling Carriers' and Telecom SaaS providers' innovation  
by providing state-of-the-art building blocks and platforms.



# About us

The company supports global operations by way of an extensive sales and distribution network throughout North America, Europe, Middle East and Africa, Latin America and Asia Pacific.



## track record

Since 2004



## R&D Centers

2 centers in LATAM



## 80%

Resources allocated to R&D



## ISO 9001:2015

certification since 2007



## Alliances

with industry referents

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# Our customers

World class operators all over the world have trusted in Condor through the years with mission critical solutions



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# Alliances

Condor Technologies actively collaborates with other leading hardware and software vendors, to develop and provide a comprehensive portfolio of telecommunications

**NOKIA**



vmware®



# Our products

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We take full advantage of the resiliency and elasticity that the Cloud architecture provides by designing from the ground up Cloud Native applications such as our Cloud SIP/RTP Platform. We also provide products suitable for bare metal deployments in Commercial-off-the-Shelf (COTS) servers and available as VNFs for private or public Clouds.





## Vas & Core

Signaling, voice and messaging solutions

## Regulatory services

Compliance with legal regulatory bodies requirements

## Network evolution

Fixed network transformation and mobile network evolution.



## Vas & Core

Signaling, voice and messaging solutions

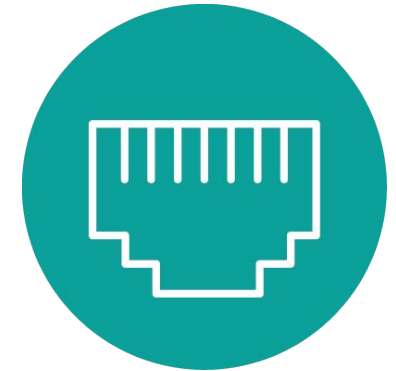
Our set of solutions that allow to generate value to the end-user through the use of innovative services that can take advantage of the capabilities of an IMS core and technologies like WebRTC.



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# SIP Trunking

SIP Trunking provides Business Customers a secure method of interconnecting via IP. Our solutions provides a flexible management tool so that Service Provider and the Companies can setup and configure their available bandwidth according to their necessities.



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# Voice mail

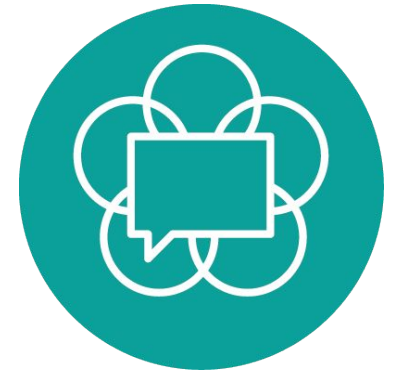
Our next generation voicemail offers on top of the traditional TUI new interfaces like Visual voicemail and web portals to enhance the User Experience.



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# WebRTC apps

Our WebRTC Application server provides a way to deliver exciting new services, like Web Click to Call, and integrate them with an IMS core.





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# MRF

The Media Resource Function (MRF) provides audio and video for high density applications like network announcement, transcoding, video sharing, conferencing, etc. The MRF is fully 3GPP compliant and interfaces with any 3rd party IMS core.



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# Call admission control

Our Call Admission Control solution offers multiple classes of customizable prepaid services, Real-time rating engine with support for third party call control and Diameter. It can be deployed in a distributed and redundant configuration, providing scalability, reliability and security.



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# Policy Platform

The Policy Platform provides a way to handle network policies and enforce them on the necessary elements from both IMS and legacy networks





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# Telephony Application Server

The Telephony Application Server is a standards-based and highly-scalable platform, that delivers a comprehensive set of traditional and advanced call services to IP and legacy networks.

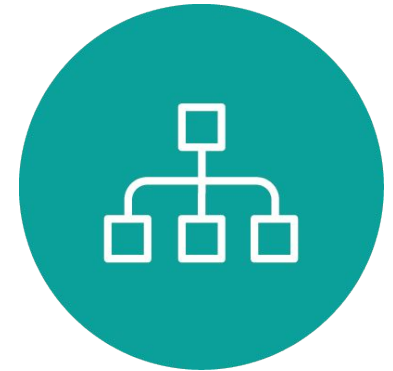




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# Hosted PBX

Hosted PBX solution provides Operators with a multitenant solution that allows them to offer a secure and reliable phone service that enables organization to communicate internally as well as externally with intuitive user interfaces that can scale up or down with virtually unlimited capacity



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# Audio conferencing

Audio Conferencing solution that allows businesses to manage their own in-house conferencing services while simplifying the end-user experience. The audio conferencing solution removes the complexity and usage limitations associated with traditional hosted conferencing services, allowing any employee to set up a conference bridge in seconds.



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# IVR

Network IVR is a powerful, carrier-grade IVR, designed to enable the rapid development of new revenue-generating voice and video services by communication service providers.





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# Cloud native SBC

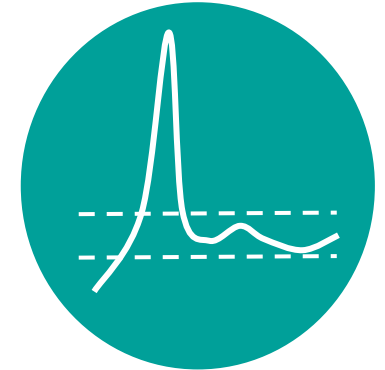
Our new Cloud Native SBC can be deployed in private or public clouds and allows CSPs or Enterprise Customers to have a secure control of their connections.



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# ETS

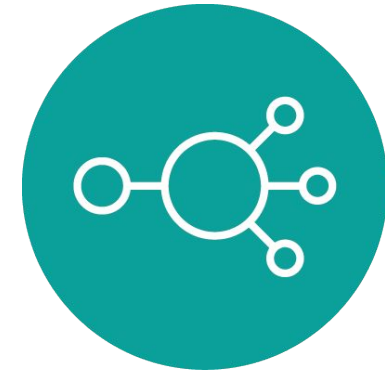
Network capacity can be threatened by traffic spikes generated by Call Centers call bursts. Traditional measures like rejecting calls will preserve the Operator's network but degrade the service provided to Call Centers. The ETS allows to queue incoming calls from Call Centers and deliver them to the network at a predefined pace flattening the spikes.



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# SIP Load Balancer

The SIP Load Balancer solution allows to balance SIP traffic between a set of elements (SBCs, proxies, Application Servers, etc.) to increase the network scalability.





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# ANI Changer

Some telephony services (i.e Call Centers) require to replace the ANI number associated to outgoing calls in order be able to segregate the traffic, differentiate services or to get better ASR by using a calling number that is perceived as local by the recipient. The ANI Change solution allows to handle this situations with flexible calling number replacement rules and strategies.







## Regulatory services

Compliance with legal regulatory bodies requirements

We have a full range of products to address regulatory requirements like Number Portability, Emergency Numbers or Legal Interception that can be easily configured to comply with country specific variants.

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# Lawful interception mediator

A convergent Lawful Interception solution for all voice and data networks, which gives operators freedom from dependence upon proprietary network equipment and solutions and allows to comply with the interception requests from Law Enforcement Agencies.



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# Emergency services

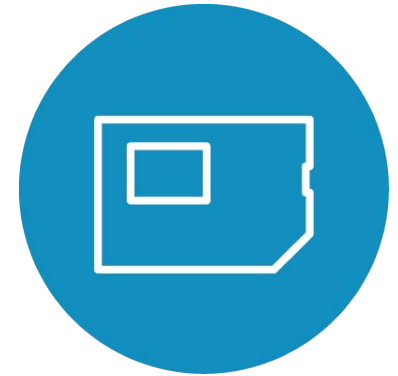
Our solution allows to deal with emergency services calls with non-geographic dialing support (i.e. 911) and metadata management as well as plugins to comply with local variants.



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# Number portability

Implements the number portability translation from a SIP perspective by consulting a internal or external database.



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# Emergency notifications

Allows users to publish a public message that can be retrieved by its callers in the context of a national disaster (earthquake, floods, etc.) when the user might become unreachable because of network malfunction.





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# Numbering plan adaptation

Enables operators to conveniently modify call data parameters as required by local regulations or service interoperability.



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# Call collect

Allows called party to be charged for the call. Along with the Call Collect Restriction Service, enables the Operator to build and maintain a list of destinations that do not want to be called in reverse charge mode.







## Network evolution

Fixed network transformation and mobile network evolution.

We recognize the existing investment in legacy solutions that, in many cases, need to co-exist or be evolved in phases. In light of this we developed a set of solutions for Fixed Network Transformation and Mobile Network Evolution to ease that transition.

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# Class 5 services

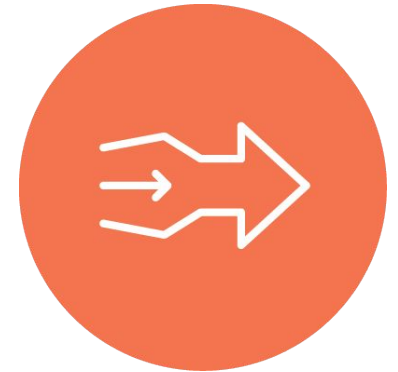
A SIP based solution aligned with 3GPP standards providing user registration, call control and routing as well as value added services in a complete and flexible solution for Carriers.



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# AGCF

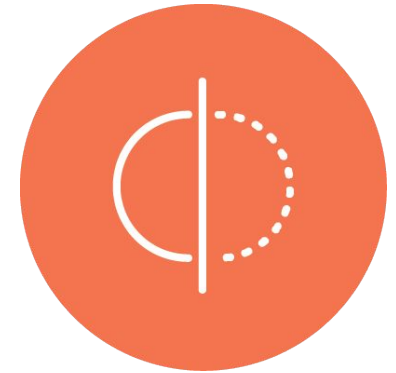
Our AGCF allows to integrate legacy IP networks into a full SIP network offering an interworking solution. The solution supports PC1.0 and PC1.5 CMTS with QoS policies as well as additional protocols such as H.248 and MGCP.



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# PSTN Simulation/Emulation

Migration to an all-IP network is usually done in phases and in the process some PSTN network functions are not fully mapped. Our PSTN simulation/emulation platform allows to provide services to legacy POTS users from an IMS network.



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# NG IN services

The platform allows Service providers phasing out their switched networks to maintain support for IN based services such as Toll Free, Prepaid, Number manipulation or Call Screening in an all-IP Network.



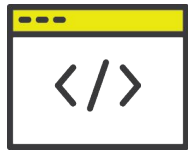


# Our services

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Backed by years of experience on leading operators in the world and the continuous refinement of our delivery processes Condor Service Portfolio provides Customers with an end-to-end offer that enables them to take full advantage of our Solutions.

# Our services



## Software design

We help our Customers stay relevant within ever-changing markets by co-creating with them specialized TELCO solutions where our experience and know how make the difference.



## Delivery services

We go from VNF Onboarding stage to wide scale deployment and integration activities to assure the successful deployment of solutions in complex networks.



## Training

We aim to help our Customers unleash the potential of our solutions by getting theory combined with hands-on practise to allow them manage their day-to-day operations.



## Customer support

A 24x7 Support Centre providing assistance in english, spanish and portuguese 365 days a year allows us to consistently exceed our Customers expectations.



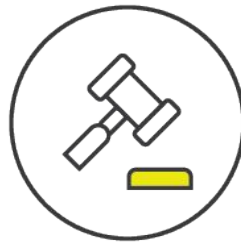
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# Software design

We are committed to listening, embracing and delivering our customer's requirements. Co-creation for us is not just another fancy marketing tactic but a real tool to jointly create value.



Align requirements and expectations.



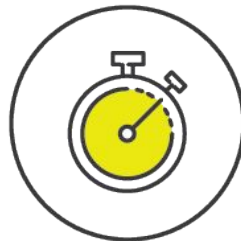
Adapt solutions to comply with local regulations.



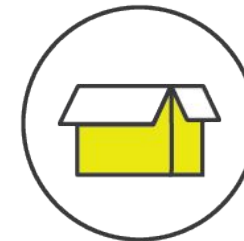
Address differentiated services that bring real value to customers.



Generate customer focus innovation by addressing specific needs.



Accelerate and prioritize Condor roadmap.

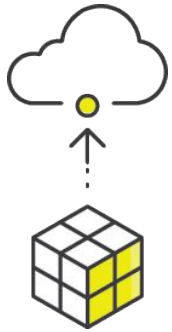


Support different business models.

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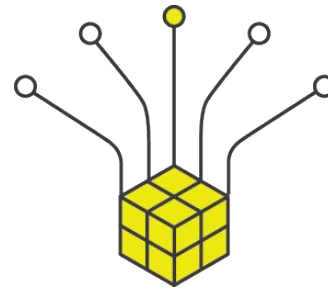
# Delivery services

A comprehensive services practice designed to assure that our products are correctly deployed and integrated in your network.



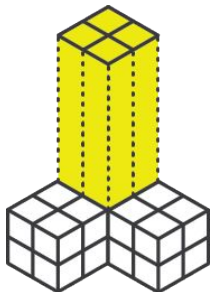
## VNF Onboarding

We are proficient in delivering Condor's Cloud Native Designed VNFs but also have experience of onboarding many different types of VNFs from numerous vendors.



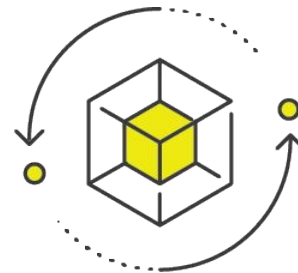
## Solution deployment

We go from early-stage development of a detailed implementation/project plan to the actual integration, testing and first production instance support phases.



## System Integration

With the help of processes, field-hardened tools, scripts, and MOPs we provide end-to-end integration of our solutions to multi-vendor network technologies and management suites.



## Network Evolution

Enhance the management, scaling and routing containers with Kubernetes orchestration. Easy Onboarding with intelligent design and streamlined workflows.

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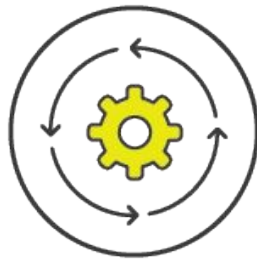
# Training

Our customer's knowledge, productivity, and competence are critical components of the joint success of the projects we embark on. We empower Operations and Marketing teams by providing Training Services that allow them to confidently manage their day-to-day operations and understand the full potential of our solutions. Through our courses trainees can put the theory into practice with hands-on exercises.



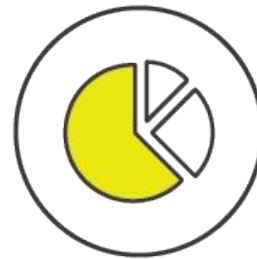
## Know how

Have the capability of defining a marketing strategy by understanding the solution capabilities.



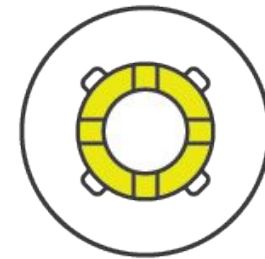
## Operations

Confidently perform the day-to-day operation.



## Diagnosis

Be able to perform early diagnostics.



## Support

Understand the support escalation procedure.

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# Customer support

Expertise, proactivity and processes to assure customer satisfaction.



## Always available

We love telecommunication technology.



## Natural intelligence

We have 15 years worth of work available as building blocks.



## Resolutions

We are flexible.



# Custom solutions

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Condor's main value proposition is our flexibility to solve customer's needs. We designed our products in a tiered and distributed approach that allows us to add customization layers or additional modules to address new requirements. We can do so with speed and reliability by taking advantage of our robust and field proven building blocks

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# Custom solutions

Exclusive focus in TELCO Solutions



ISO certified processes



Deep Telecommunications know how.



Solid and field proven building blocks.



Inhouse developed protocol stacks (SIP, Diameter, etc.).



Designs compliant with mandatory TELCO requirements such as High availability, performance and scalability



Rigorous Project Management aligned with complex implementations



Team members with 10+ years in the field.

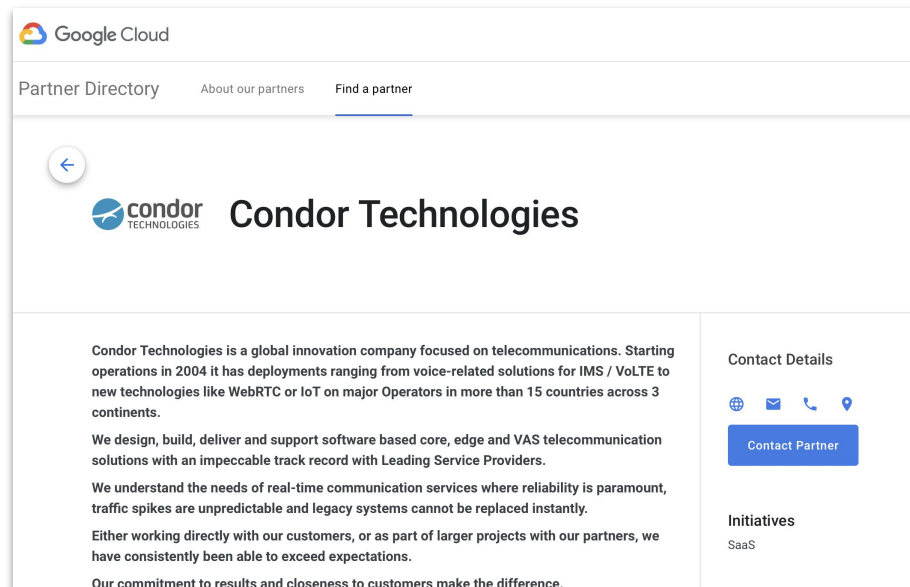
## Key examples

- Regulatory services
- Emergency Services
- Prepaid solutions
- Number Manipulation
- Least Cost Routing
- Sponsored Calls Service
- Device Provisioning
- Legacy Switch Management
- Protocol Adapters & Connectors
- Interworking function nodes
- O&M Consolidation / Provisioning adaptation

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# Cloud native designs

We have established powerful technical partnerships with industry leaders on the Cloud landscape and have vast experience in microservices architecture implementations that allow our solutions to have elasticity and high availability, have better fault isolation and be deployed in containers like Docker.




The screenshot shows the Google Cloud Partner Directory page for Condor Technologies. The page header includes the Google Cloud logo and navigation links for 'Partner Directory', 'About our partners', and 'Find a partner'. The main content area features the Condor Technologies logo and name, followed by a detailed description of the company's focus on telecommunications and its global reach. A 'Contact Details' section includes icons for location, email, phone, and a 'Contact Partner' button. An 'Initiatives' section lists 'SaaS'.

Google Cloud

Partner Directory About our partners Find a partner

←

 **Condor Technologies**

Condor Technologies is a global innovation company focused on telecommunications. Starting operations in 2004 it has deployments ranging from voice-related solutions for IMS / VoLTE to new technologies like WebRTC or IoT on major Operators in more than 15 countries across 3 continents.





We design, build, deliver and support software based core, edge and VAS telecommunication solutions with an impeccable track record with Leading Service Providers.

We understand the needs of real-time communication services where reliability is paramount, traffic spikes are unpredictable and legacy systems cannot be replaced instantly.

Either working directly with our customers, or as part of larger projects with our partners, we have consistently been able to exceed expectations.

Our commitment to results and closeness to customers make the difference.

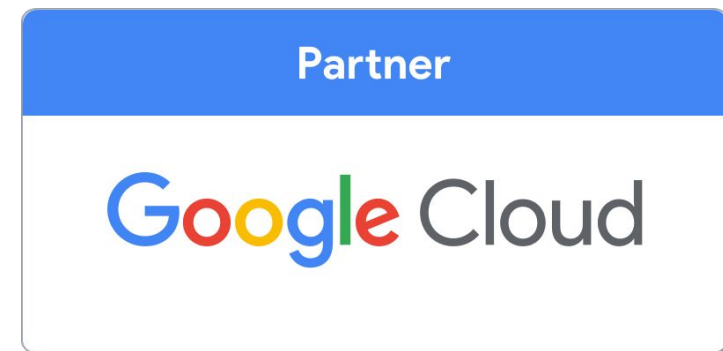
Contact Details

Contact Partner

Initiatives

SaaS



# What set us apart?

## Rich features set

We have a huge library of modules to handle numbering, routing, interworking and media management .

## Protocol Stacks

We developed proprietary stacks (SIP, RTP, Diameter, etc.).



## Cloud native

We develop for the Cloud instead of repacking for the Cloud.

## Research

We have inhouse R&D where we constantly play with new technologies, frameworks & platforms.



## Project based

Instead of one-size-fits-all approach we handle each case as a unique project.



# **Success stories**

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# H.248 integration



## Customer

SKY is a leading operator in UK providing service for residential and commercial users



## Challenge

Sky was introducing a new IMS solution to evolve its fixed network but some of the installed base was currently being served through H.248 MSANs with no ability to integrate to the new IMS core proposed.



## Condor solution

Condor deployed a georedundant AGCF solution serving over 3MM users which allowed the seamless integration of H.248 endpoints into an IMS network.



## Results

Successful integration with Nokia's IMS core and existing 3rd party MSANs  
Integration to Nokia's NetAct manager and support for a custom Backhaul backup configuration was provided.



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# Policy Server



## Customer

Vodafone is one of the largest and most modern telecommunication services providers in Europe with a portfolio including mobile communications, fixed network telephony, internet and broadband data services for business and private customers



## Challenge

Vodafone Germany was integrating into its network the operation of two cable operators through a new IMS solution. The installed base included Packet Cable endpoints and VF was required to enforce policies using the COPS protocol.



## Condor solution

Condor deployed a georedundant Policy Server solution that implements the interworking between the PCSCF/SBC on Diameter Rx protocol to the PacketCable CMTSs on COPS protocol and applies PacketCable policy rules.



## Results

Successful integration with Vodafone IMS core with the ability to server more than 10MM Packet Cable subscribers.





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# Hosted PBX in IMS



## Customer

Telefónica is one of the largest Operators in the world operating in more than 20 countries,. Telefónica, Movistar, O2 and Vivo are Telefónica's major brands. Telefónica is the corporate brand, Movistar targets the Spanish-speaking public



## Challenge

Movistar Colombia wanted to offer a Hosted PBX service integrated to a new IMS core it had deployed maintaining the kind of service already provided in its legacy network



## Condor solution

The Hosted PBX was provided as well as several customization required to make a seamless transition from the old system to the new one.



## Results

The Hosted PBX was deployed into Telefonica's network and integrated to Ericsson's IMS core and Movistar's existing management systems.





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# Visual Voicemail



## Customer

Telecom Argentina is the leading telecommunications group in Argentina offering local and long distance fixed-line telephony, cellular, data transmission, and pay TV and Internet services, among other services.



## Challenge

Telecom needed to evolve its Voice Mail solution for both its fixed and mobile network.



## Condor solution

Convergent Voicemail solution serving fixed and mobile subscribers  
Visual Voicemail capabilities  
20.000.000 users and growing  
Set of professional services, including Implementation, System Integration, Training and Customer Support

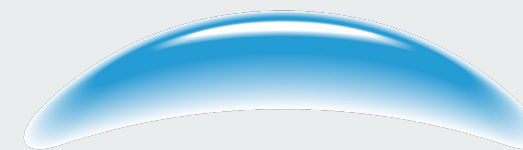


## Results

Customized call flows to attend the fixed and mobile network requirements  
integration to existing fixed and mobile cores from different vendors with different MWI schemes deployed in a high availability virtualized environment



# TELECOM



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# Network evolution



## Customer

Izzi is an Operator operating in more than 60 cities in 29 states of Mexico, that offers multimedia telecommunications and services including video, internet and voice transmission services.



## Challenge

Izzi had a new IMS core being deployed on the network but required to provide services to legacy Packet Cable users with no SIP support. In addition to this value added services like Voicemail and wake up call had to be delivered.



## Condor solution

Deployment of an AGCF solution that was able to interact with the existing legacy CMTS of the network and the new IMS core. and serve more than 4MM legacy users. Condor also provided its Voicemail solution and a Wake Up call service



## Results

Successful integration with Nokia's IMS core  
Compliance with Wake Up call custom requirement  
Multi tenant solution that was able to serve Cablevision, Cablemas and Cablecom users by integrating to other cores.



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# VoIP Legal interception



## Customer

Telecom Argentina is the leading telecommunications group in Argentina offering local and long distance fixed-line telephony, cellular, data transmission, and pay TV and Internet services, among other services.



## Challenge

The Operator required to comply with the legal interception regulations applicable in Argentina and wanted to do it an automated and centralized way through a standards compliant platform.



## Condor solution

Condor provided an LI Mediator, a Monitoring Unit and Media Gateways to interface with the LEA



## Results

The solution was integrated to custom interfaces from different vendors and presented ETSI standard interfaces towards de Argentinean LEA. The platform was deployed in a high availability configuration and was later upgraded in order to cover a newly deployed Push Over Cellular service.



# TELECOM



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# Number Portability



## Customer

Maxcom is an integrated telecommunications services operator from Mexico providing voice and data services for corporate users.



## Challenge

The customer needed to replace a hosted LNP service while maintaining the existing provisioning interfaces



## Condor solution

Condor provided a Number Portability Solution supporting traffic above 300 CAPS and managing a 120 MM subscribers database in a geo redundant solution.



## Results

Deployment of more than 30 instances working in a load balancing architecture that was seamlessly integrated into Maxcom's existing network replicating the existing provisioning interfaces.:





# Call center randomizer



## Customer

Oi offers services that include fixed-line and mobile telecommunication services, broadband, subscription television, internet service providers (ISPs) and other services, for residential clients, small, medium and large companies, and governmental agencies. Oi operates in three Brazilian regions. [www.oi.com.br](http://www.oi.com.br)



## Challenge

Nokia was evolving Oi's core network and was required by Oi to replicate over SIP trunks a fixed service they were offering on traditional trunks.



## Condor solution

Condor developed on top of its TELCO framework a service logic which allowed to have a group of rules that allowed to randomize the call number presented to the customers receiving calls originated on SIP Trunks associated with call centers.



## Results

The solution was deployed in a virtualized environment on top of Nokia's cloud RM19 and was able to replicate the service required by Oi in an IMS environment. The solution was integrated with Nokia's core, OneNDS and the Netact manager.

33666	62570	64775	78428
81666	26440	20422	05720
15838	47174	76866	14330
89793	34378	08730	56522
78155	22466	81978	57323
16381	66207	11698	99314
75002	80827	53867	37797
99982	27601	62686	44711
84543	87442	50033	14021



# Legacy protocol transport



## Customer

Vivo is Telefónica Group's mobile telephony brand in Brazil. Offering services that include fixed line, mobile telecommunications and internet services, Vivo is a leader in Brazilian mobile telecommunications, reaching more than 3400 cities countrywide.



## Challenge

In the context of the deployment of a major metro ethernet ring VIVO required the replacement of legacy switches with MSANs but needed to maintain R2 links for some customers. Telefonica required that the R2-H248 translation be handled in a decentralized way in the MSANs.



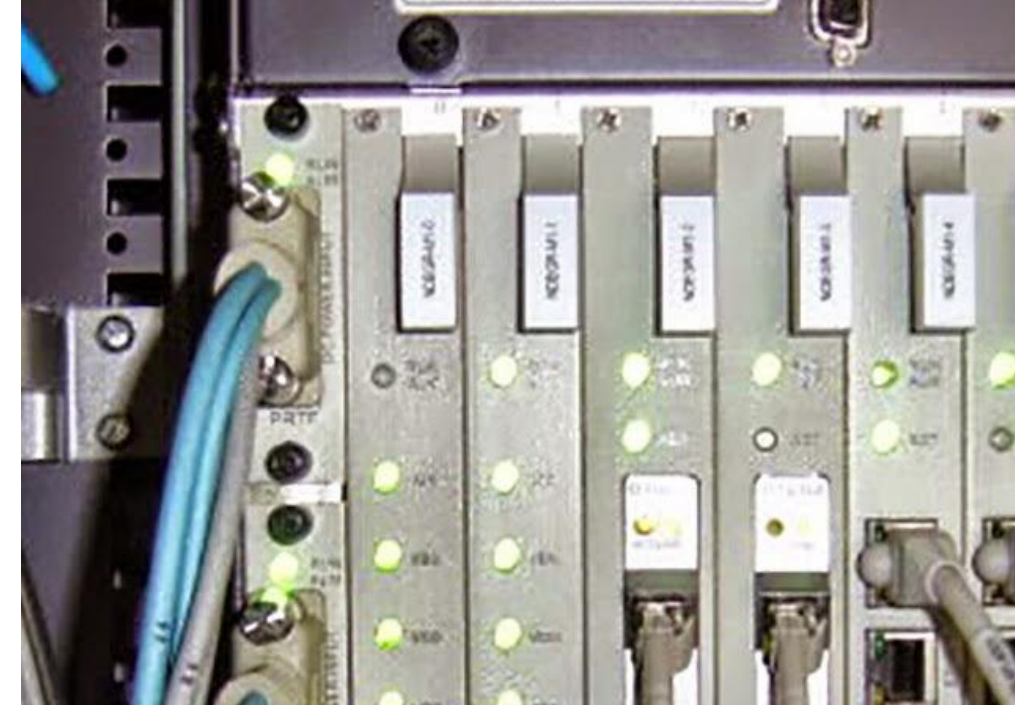
## Condor solution

Condor developed an R2-H.248 gateway that could be embedded in Alcatel-Lucent's proprietary Hardware



## Results

Successful integration with NANT-E hardware of the ISAM solution



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# POTs Legal interception



## Customer

Telefónica is one of the largest Operators in the world operating in more than 20 countries,. Telefónica, Movistar, O2 and Vivo are Telefónica's major brands. Telefónica is the corporate brand, Movistar targets the Spanish-speaking public



## Challenge

Telefonica Argentina needed to comply with local regulations and be able to intercept call from POTs users. The interception was being done manually and in some places it was not possible to connect via analog lines to the interception agencies.



## Condor solution

Centralized controller + Mobile boxes connected via 4G to be used in distant & low capacity exchanges + fixed boards installed on the exchanges connected directly to the IP network.



## Results

The solution allowed to tap pots line transparently by converting analog signals into SIP sessions that were received by a centralized controller that was connected to LIMS platform. Configuration and management of interceptions could be done in a centralized way.



*Telefónica*

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# Emergency calls



## Customer

Maxcom is an integrated telecommunications services operator from Mexico providing voice and data services for corporate users.



## Challenge

A new regulation in Mexico imposed a nation-wide emergency service number (911). That number had to be translated by Telecom Operators to the local number of the Emergency Service Center according to the user location. In addition to this the Operator needed to send additional information through a custom interface to the Emergency Center.



## Condor solution

Condor handled the solution as a custom project which used a base its own Number Portability engine and adjusted it to comply with the specific requirements



## Results

The solution was integrated into Maxcom network allowing them to comply with the regulation.



maxcom



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# Regulatory services



## Customer

Oi offers fixed-line and mobile telecommunication services, broadband, subscription television, internet service providers (ISPs) and other services, for residential clients, small, medium and large companies, and governmental agencies.



## Challenge

Deploy Telephony Supplementary Services solution for residential customers, including specific regulatory services as required by the Brazilian regulatory body ANATEL.



## Condor solution

12+ Application Servers (IVR, Call Collect, Payphone, Access Control/Bandwidth control & Legal interception) and 27 Media Servers geographically distributed with a centralized management in geo redundant configuration.



## Results

Compliance with Universal Service regulatory services (PGMU).  
Integration to Alcatel-Lucent's NGN and in a second phase with an evolved IMS core  
Availability of the solution compliant with the time constraints of the Regulator  
Evolution to comply with Rural Areas regulation (Ruralsat)



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# Multitenant OSS



## Customer

American Tower is an operator of wireless and broadcast communications infrastructure in several countries.



## Challenge

American Tower was deploying a fiber network. A project requirement was to be able to resell the network usage to several operators so the solution had to be multitenant. The existing management system was single tenant and that became a deal breaker.



## Condor solution

Condor developed a middleware solution to provide multi tenancy for the ONTs management



## Results

The solution is able to provide interfaces for provisioning, domain control, statistics and inventory. It is being positioned in several operations of American Tower in LATAM



**AMERICAN TOWER®**

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# Google Cloud API integration



## Customer

Clarity is the world leader in amplified telephones, notification systems and assistive listening devices based in the US.



## Challenge

As a way to diversify from its hardware portfolio Clarity engaged in an IPCTS project with the aim of providing an automatic solution that translates conversations in real time without the need of human intervention.



## Condor solution

Condor provided a cloud native application server hosted on GCP that could receive calls from SIP trunks and invoke the Google Cloud Speech API in order to get the transcriptions of the call in real time



## Results

The solution was integrated to a front-end application developed by Clarity that was able to offer an innovative IPCTS service that has been approved by the FCC.



**clarity**<sup>®</sup>  
*Life. Amplified.*

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# Caption Mate



## Customer

As a way to diversify our operations we engaged along with Clarity, the world leader in amplified telephones, notification systems and assistive listening devices in an IPCTS solution for the US market.



## Challenge

The service provides an automatic solution that translates conversations in real time without the need of human intervention.



## Condor's involvement

Condor provided the "Telco" leg of the solution: a cloud native application server hosted on GCP that could receive calls from SIP trunks and invoke the Google Cloud Speech API in order to get the transcriptions of the call in real time



## Results

The solution was integrated to a front-end application developed by Clarity and the joint solution has been approved by the FCC in early 2020 and is handling live traffic since then with a high degree of satisfaction from end customers.



captionmate



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# Cloud data ingestion



## Customer

CISCO engages in the design, manufacture, and sale of IP based networking products and services related to the communications and information technology industry



## Challenge

The company has thousands of employees operating all over the world and wanted to feed performance information of its employees' workstations in order to ease up the IT department activities. They already had a cloud analytics project in place with Google but did not have a way to feed up the data to the Cloud.



## Condor solution

Condor developed elastic services for both Windows and Mac based workstations and collected them in a kubernetes module running in GCP.



## Results

CISCO was able to automatically ingest data from thousand of machines into Google Cloud Platform and apply Analytics to the data thanks to the solution provided by Condor



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