

## SIGNALING SERVER

Up to 300 transactions per second per server  
Up to 2,000 parallel transactions per server  
SIP application server  
Service Broker

## OPERATIONS, ADMINISTRATION, MAINTENANCE

Multi-tenant / multi-lingual web user interface  
Configuration, reporting, service creation and provisioning  
User interface for HTML, XML and HTML5 for iOS and Android  
Suitable for operators, wholesale/MVNOs, business customers  
Rights management with users, groups, profiles and rights  
Consolidated real-time / historical monitoring and reporting  
Mass provisioning interfaces (CDR, offline transcription, CRM)  
Diameter, charging CDRs, online/offline charging  
SNMP v3

## PLATFORM SERVERS

Standard PostgreSQL database server or Oracle  
Real-time Server for synchronization and counting  
Distribution Server for automated software distribution

Logging Server for transaction logging and charging

Reporting Manager for report generation

Alarm Manager

## SERVICE CREATION ENVIRONMENT

### For the Service Provider

Consistent workflow creation for signaling, voice, SMS, USSD, web/chat, VXML

Graphical user interface with drag & drop

Integrated script engine with 300+ commands

Integration of databases and web services (XML/SOAP parser)

### For the Business Customer

Browser based drag & drop graphical user interface for easy modification

## PROTOCOLS

VXML 2.1, MRCP v1/v2, MSML, Netann, MSCML

SIP, SIP-I, SIP-T, SIP TLS(AES), RTP, SRTP

Fax Standards T.30, T.38

WebRTC, OPUS

Audio Codecs:  
G.711, G.726, G.729a/b, G.722, AMR-WB, AMR-NB, EVS

Video Codecs:  
H.264, H.263, VP9, VP8, MPEG-4

## VIRTUALIZATION

For CSPs with own data centers, our virtualized platform is 100% hardware agnostic, which significantly reduces OPEX and CAPEX, by allowing to exploit existing digital assets. Additionally, the time to market for capacity expansions is considerably reduced by the easily scalable software-only architecture.

On the basis of VMWare or KVM/OpenStack, all CreaLog components, including Media Servers, Application Servers, Web Servers, and Databases, are available virtualized. Additionally, we provide virtualized network functionality (VNF) including interfaces towards management and organization (MANO) and the virtualization layer in the KVM hypervisor.

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A background image consisting of a dense field of colorful bokeh lights in various colors (red, blue, green, yellow, purple) against a dark background. A dark blue horizontal bar is overlaid on the bottom left of this image, containing the text "CREALOG MRF".

## CREALOG MRF

### SOFTWARE-BASED MEDIA RESOURCE FUNCTION FOR CLOUD DEPLOYMENTS

The CreaLog MRF building blocks help Communication Service Providers to deliver multimedia Services in VoLTE, 5G and fixed IMS networks.

Apart from supporting a multitude of audio codecs and providing basic telephony announcements it integrates a broad set of Value Added Services.

#### THE FRAMEWORK

The comprehensive CreaLog framework of SIP Application Servers (SIP AS) and SIP Media Servers (SIP MRF) is

fully compliant with W3C, 3GPP, ETSI, SIP, MRCP, MSML, MSCML, VoiceXML, and Netann standards. Individual project specific technical requirements can easily be added if necessary.

#### THIRD PARTY CONNECTIVITY

Connectors to industry standard control interfaces like MSML, VoiceXML and Netann allow rapid integration and development with third party application servers and utilization of the media processing capabilities for voice, speech, video, conferencing and fax.

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#### KEY BENEFITS

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- High-performance media processing and scalability
- Cloud deployment flexibility
- Deployment as separate Media Resource Function or integrated Media Server
- Fixed/mobile converged networks support
- Unified Service Creation Environment with Web GUI Service Manager
- Remote monitoring by SNMP or CreaLog Monitor
- Multi-language, multi-tenant, and white-label solution
- Short time-to-market through reusable applications and modules
- Best-of-Breed speech resources
- Real-time communication and media optimization to drive revenue and improve service stickiness

## STANDARD APPLICATIONS

The CreaLog Platform provides the following proven extensions for the MRF:

- Call Recording
- VoiceMail
- Contact Center
- IVR, VoiceBots and Chat-Bots with Speech Recognition, Voice Biometrics and Conversational AI
- NTS for Service Numbers
- Business Voice VPN
- Emergency Call Routing
- Video Conferencing

## SOLUTIONS

CreaLog's MRF Solution for the Telco Cloud with a unified architecture for Mobile and Fixed Networks helps to reduce complexity and simplifies voice services delivery.

The CreaLog MRF interfaces with third party application servers via MSML, VoiceXML, Netann, or MSCML delivering media processing for services, like announcements, conferences, recording or IVR.

The integrated best-of-breed speech recognition engines enable sophisticated state-of-the-art speech applications.

## SERVICE CREATION ENVIRONMENT

The comprehensive Service Creation Environment (CreaLog CDG) allows the implementation of Telco specific services and solutions in the shortest possible time.

Controlling inbound and outbound traffic with its workflows, the SCE features a fully graphical user interface for all kinds of applications. An integrated scripting engine allows developing complex calculations and procedures and interfaces with Diameter, LDAP, SMTP, POP3, IMAP, ODBC, and SQL databases, to name a few. Integrated web services support all relevant protocols such as HTTP/HTTPS, XML/SOAP, RESTful and include a powerful XML parser.

## SERVICE MANAGEMENT

The MRF service can additionally be managed with the Web GUI based Service Designer and Service Manager. This environment allows easy, encapsulated development of new service logics or the quick adaptation of existing ones.

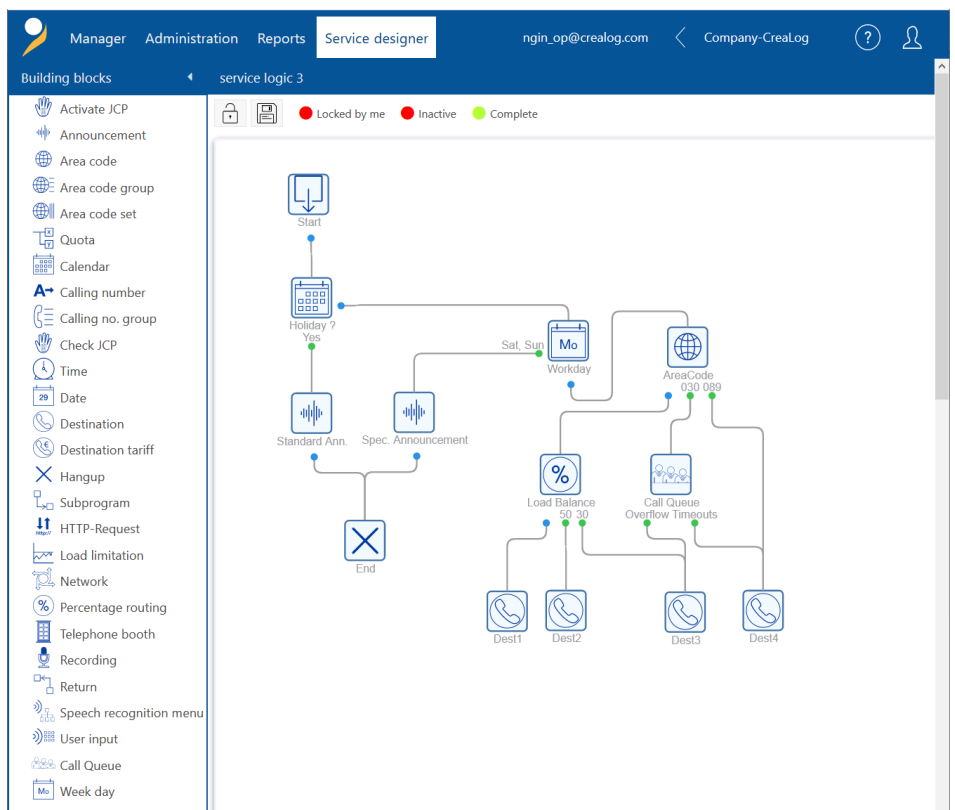
## SERVICE MIGRATION

CreaLog Professional Services help to migrate already existing MRF services seamlessly to the new MRF platform. We deliver tools to support the migration of even large numbers of services in a transparent and easy way.

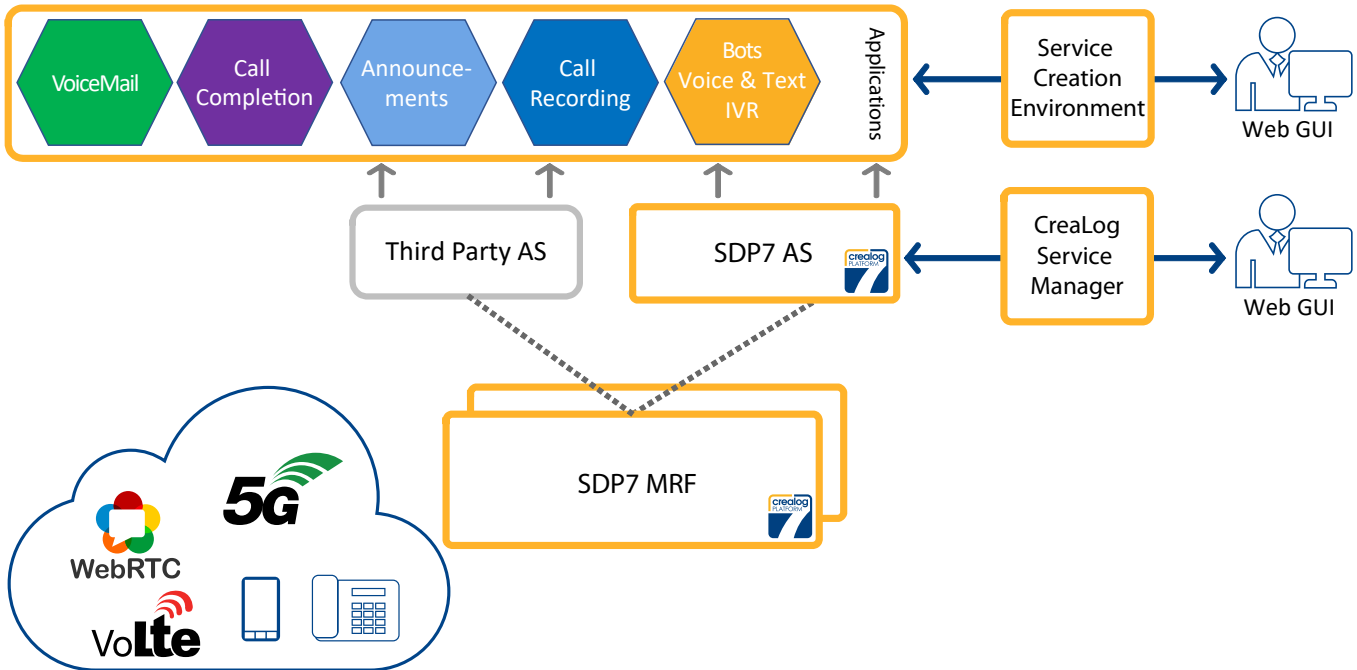
## PROJECT IMPLEMENTATION

The CreaLog experts provide many years of experience in MRF projects, interfaces and applications like announcements in IMS environments, Business Voice VPN and Emergency Call Solutions.

Our experts seamlessly work with our customers' experts in a joint team and adapt the project implementation to the customer's work structures. Thus frictional losses are avoided and the shortest possible project realizations can be achieved.



## CreaLog SDP7 MRF and Application Server



## SPECIFICATIONS

### CREALOG TELECOM PLATFORM

- 100,000+ concurrent sessions
- 5,000+ CAPS per second
- Layered architecture
- Distributed or central deployment
- Designed for 99.999% availability
- Geo-redundant architecture
- All components n+1 or cluster redundant
- Autonomous signaling / MRFP servers
- Hot swappable components
- Virtualization: VMware, KVM, EC2
- Integration: OpenStack-NFV, EC2

### MRF VOICE/VIDEO (IVR)

- Up to 1,000 voice channels per instance
- Up to 500 fax channels per instance
- Up to 580 channels conferencing per instance
- Speech recognition in 50+ languages and dialects
- TTS and transcription for 40+ languages and dialects
- Voice biometrics for speaker authentication
- Voice recording with speech analytics
- Conferencing for voice with active speaker detection, whispering mode and mixing for all available audio codecs
- Video conferencing with MCU and SFU mode