

A man in a dark suit and tie is shown from the chest up, holding a glowing, wireframe sphere of interconnected nodes in his right hand. The background is a blurred city skyline at night. A large teal diagonal shape is on the left side of the image.

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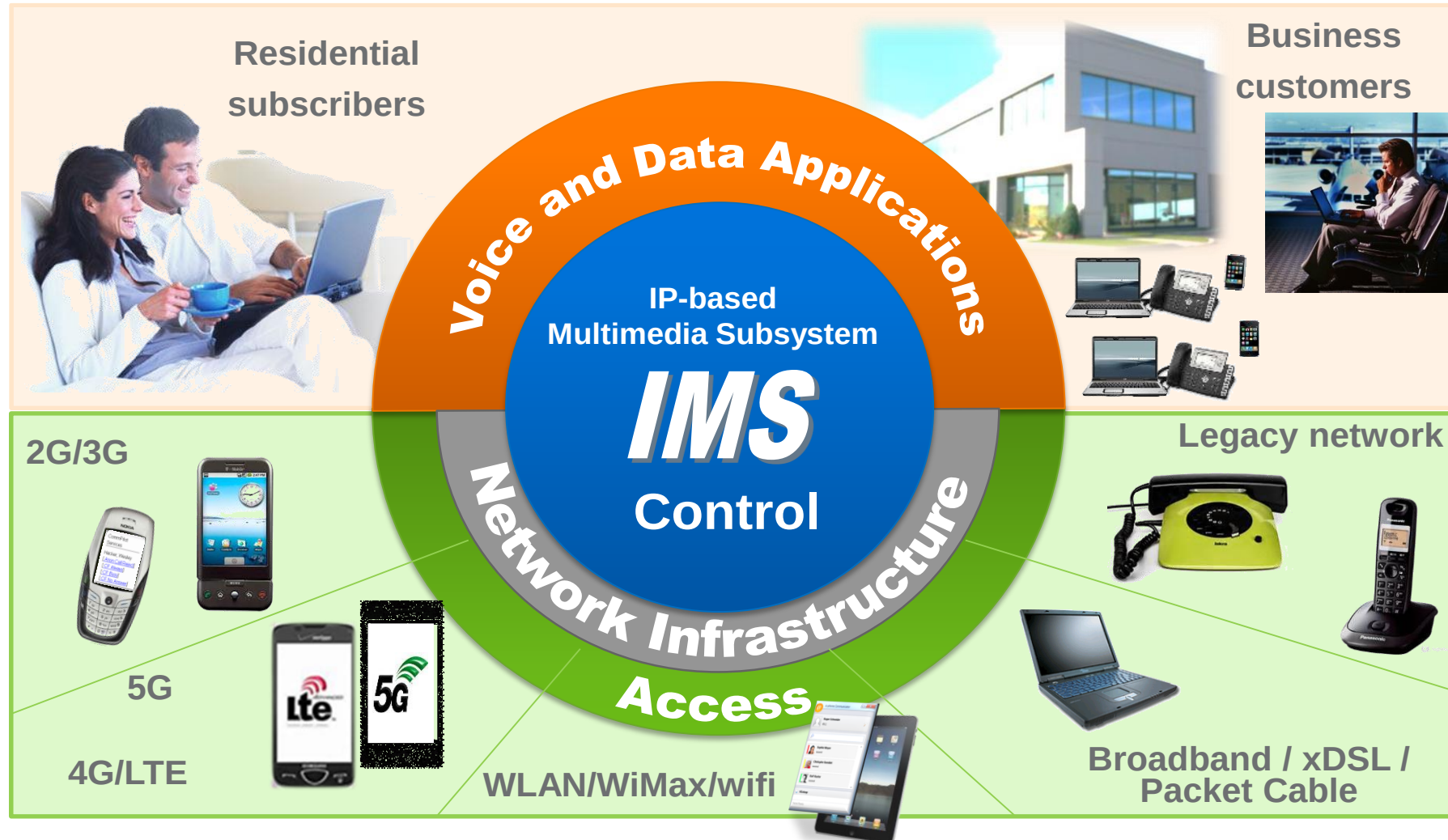


Virtual IMS solution

VoLTE – Voice over LTE

5G ready vIMS solution

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Kontron vIMS value proposition



All IMS components virtualised

Carrier-grade **high availability** and **geo-redundancy**

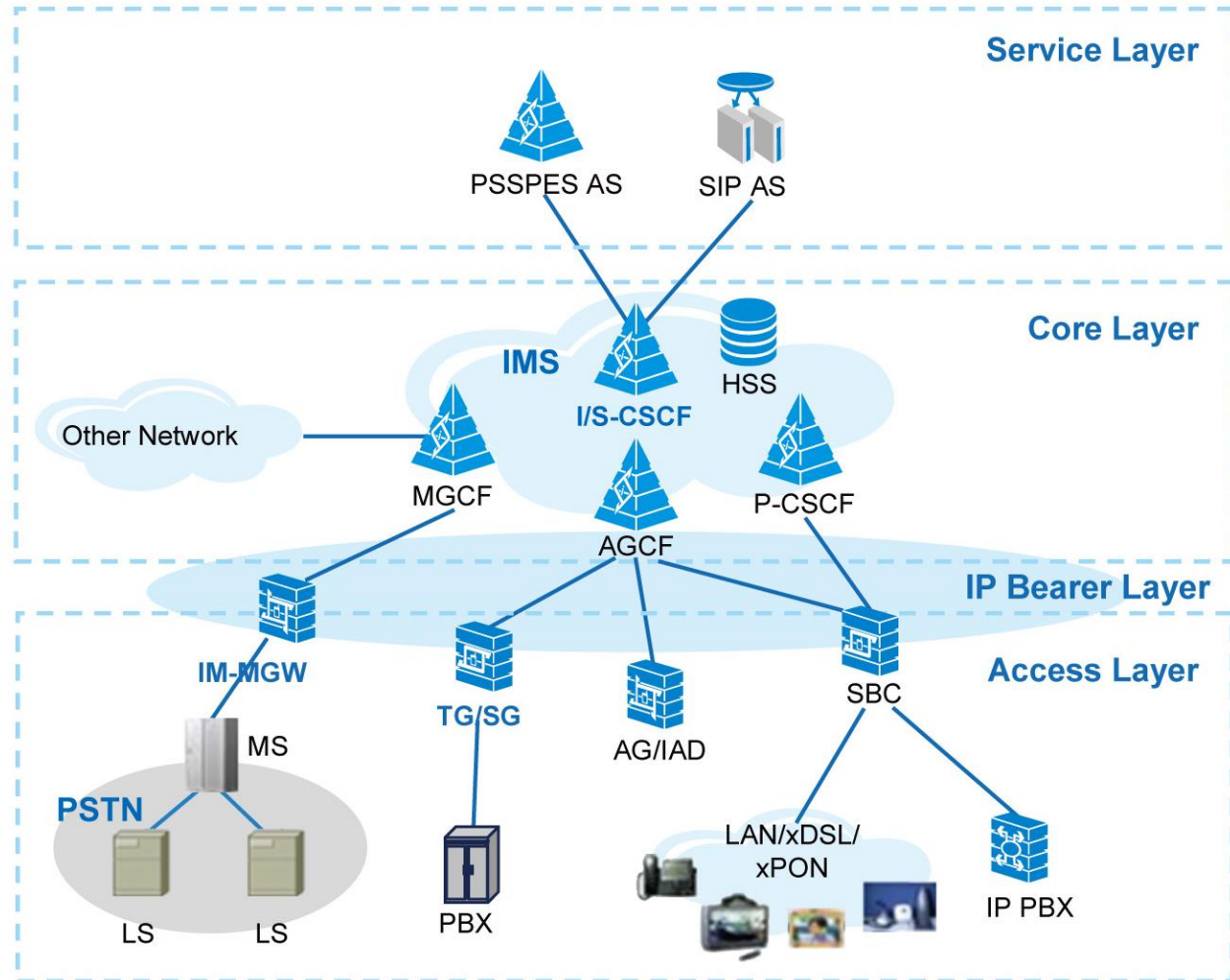
Full **regulatory compliance**

Coexistence with legacy apps

Universal Communications

Central service provisioning

Hardware independence



Kontron vIMS Solution



Applications

- › UC, SR-VCC

IMS TAS

- › Control for/over services
- › VoLTE

IMS Core

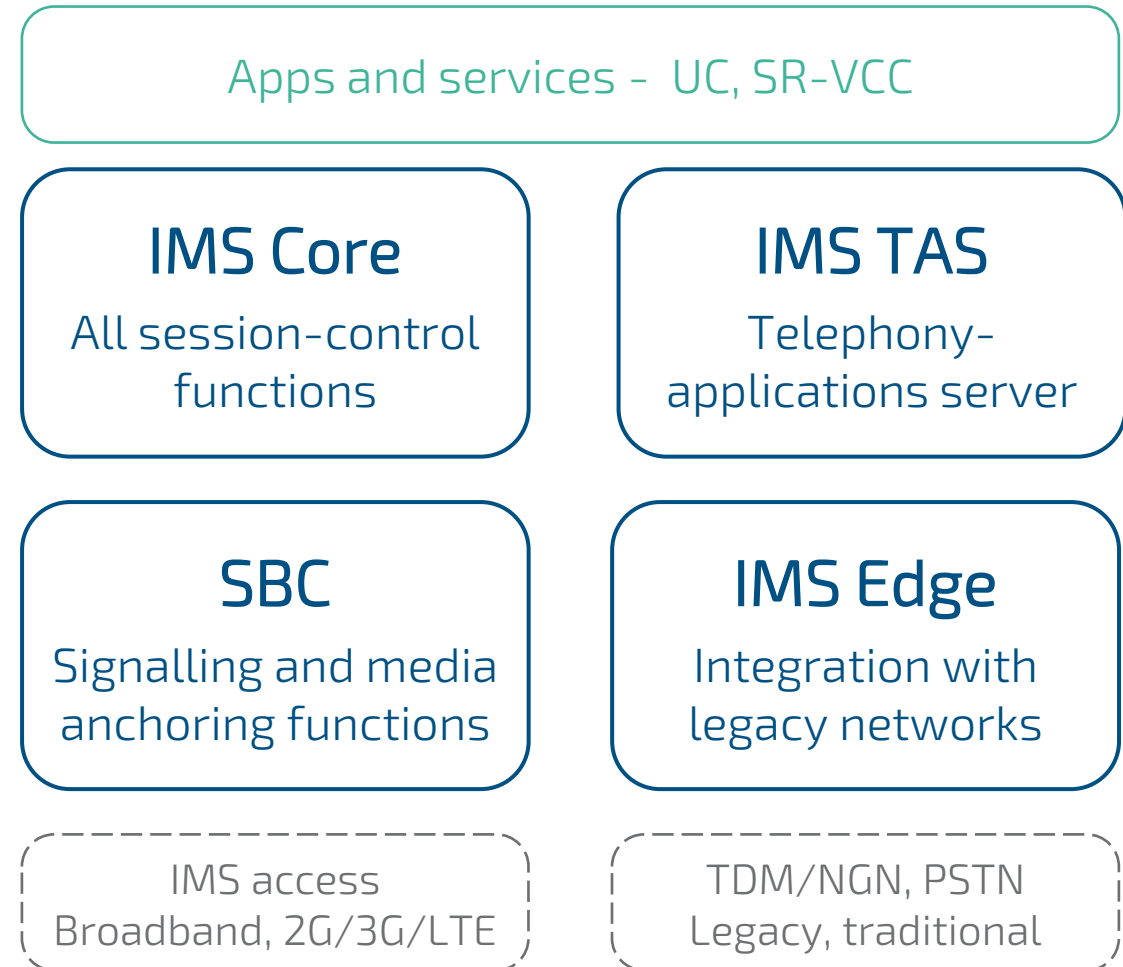
- › All session-control functions
- › HSS, DNS/ENUM

SBC

- › Access nad peering SBC

IMS Edge

- › TDM/PSTN integration



vIMS building blocks



SI3000 MS (Media Server)

- › MRFP: Media Resource Function Processor

SI3000 SMG (Signalling and Media Gateway)

- › A-MGW: Access Media Gateway
- › T-MGW: Trunk Media Gateway
- › MRFP: Media Resource Function Processor

SBC (Session Border Controller)

- › P-CSCF: Proxy CSCF
- › A-BGF: Access Border Gateway Function
- › ATCF: Access Transfer Control Function
- › ATGW: Access Transfer Gateway function
- › IBCF: Interconnection Border Control Function
- › I-BGF: Interconnect Border Gateway Function

IMS Applications (Applications Server)

- › TAS/MRFC: Telephony Application server
- › UC: Universal communication AS
- › SRVCC-AS : SRVCC controller
- › IM-SSF: IMS Service switching function

IMS Core

- › S-CSCF: Serving Call Session Control Function
- › I-CSCF: Interrogating CSCF
- › E-CSCF: Emergency CSCF
- › HSS: Home Subscriber Server
- › DNS/ENUM: Domain Name Server

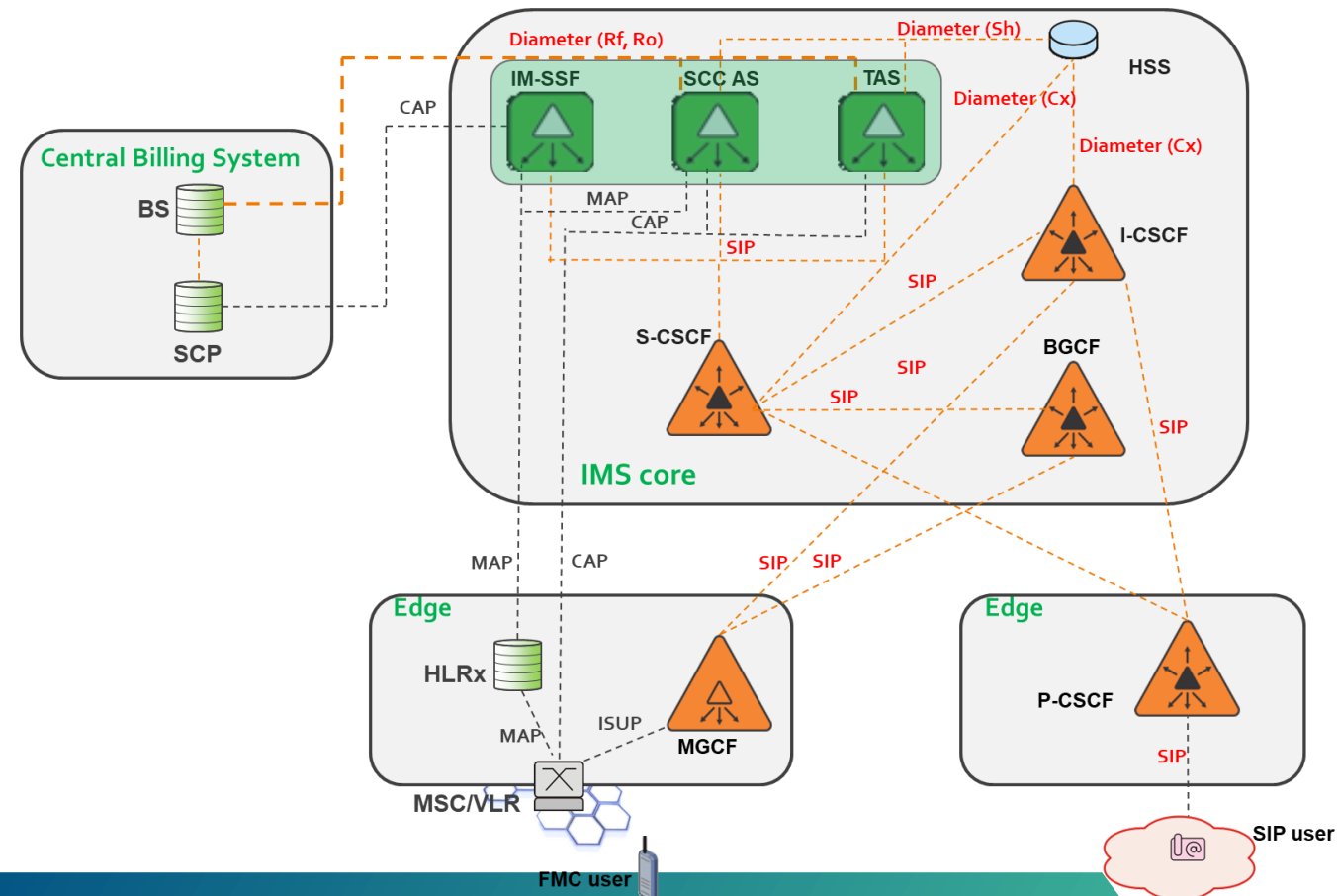
IMS Edge

- › MGCF: Media Gateway Control Function
- › AGCF: Access Gateway Control Function
- › BGCF: Breakout Gateway Control Function
- › M-AGCF: Mobile AGCF

IMS Centralization Services solution

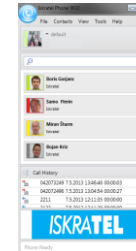
Homogenous service experience to all subscribers in the network provided by Kontron solution independent on the access network

- Standard TAS functionality extended with interesting features for residential and business subscribers based on **UC service platform**
- Standard SCC AS functionality with **T-ADS and eSRVCC support**
- Support for IN/CAP based services with **IM_SSF and R_IM_SSF** functionality integrated



TAS – MMTel functionality

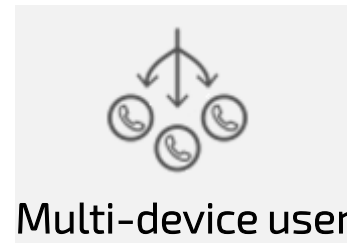
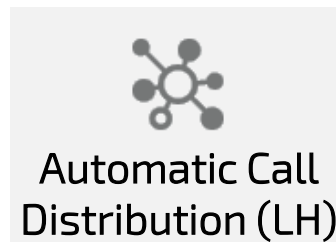
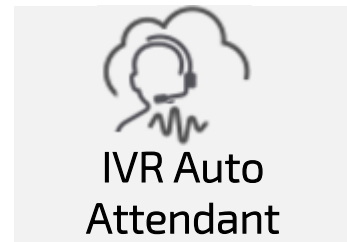
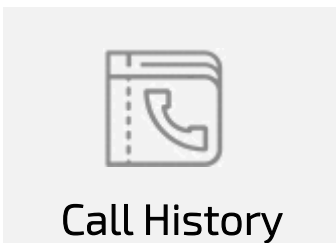
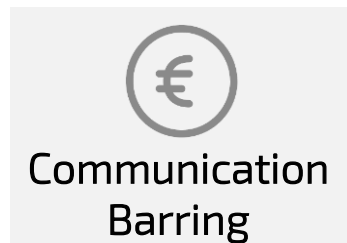
- › Provides supplementary services and core voice and video communications in IMS according to 3GPP specifications 3GPP TS 24.229 and 3GPP TS 24.173
- › SDP information control
- › Standard interfaces for Offline (Rf) and Online (Ro) Charging
- › Integrated Media server control function
- › Smooth migration and protecting existing investment
- › Cost effective solution for fixed/mobile users



Universal communications



IMS Application Server for Fixed and Mobile Convergence



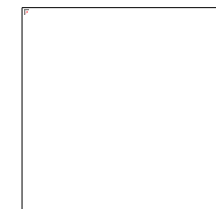
Enhanced User Experience



Desk phones



Native mobile



Web Browser

Self-care WP

- › Business Group
 - = virtual PBX
 - = PBX as a Service in Telco cloud
- › per Group services
 - › Internal numbering
 - › Call type (internal external)
 - › Users
 - › Ordinary users of numbers in BG
 - › Moderators (IVR AAt, NC)
 - › Administrators (in Business Group)
 - › Address Book
 - › Call History

TAS Centrex built-in supplementary services

- › Universal dialing
- › Multidevice user
- › Call forwarding
- › Do not Disturb
- › Originating/Terminating Identification
- › Identification Restriction
- › Presentation Number
- › Call Transfer
- › 3-Party Call
- › Call Waiting
- › CPU Group
- › Line Hunting (ACD) and Group call
- › Call Barring

UC User: Web Portal



Hierarchical service management rights

- › Service self-provisioning for end users
- › End users see the services disabled by administrators

Call history and statistics

- › Parties, duration, services used
- › Integration with address book
- › Filtering and export for post-analysis

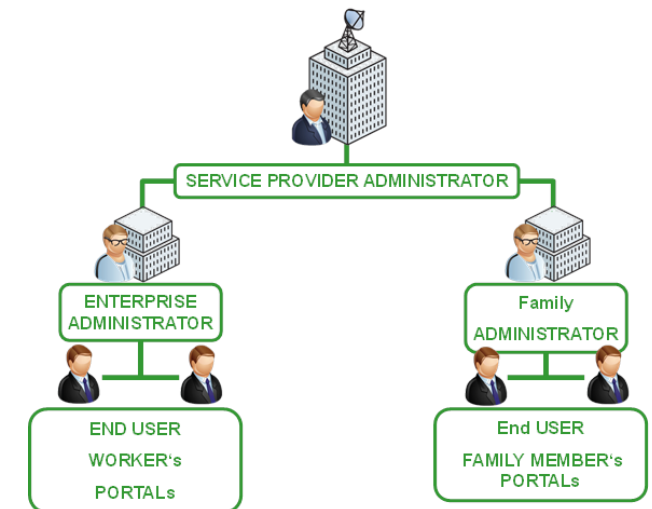
Full branding capabilities

- › Colours, logo, fonts
- › Languages

Call Statistics

Time Period: Statistic data about calls is for information only. It may not coincide with call details, specified in operator's accounts, and it is not used by

Call Statistics				
Calling name	Calling number	Called name	Called number	Call type dialed
No records found.				
1 / 1				



UC User: Single Identity on Multiple Devices



Single identity for multi-device user (MDU)

- › Enables a single identity to multi-device users (MDUs)
- › Integrates all user's numbers/terminals (fixed, mobile) into a single identity

Simplified provisioning and activation

- › Unified services on all terminals
- › Service activation/deactivation on all terminals

User-friendly call reception/rejection

- › Reception on all terminals
- › Call waiting if any terminal is busy (others not ringing)
- › Do-not-disturb, Busy or Cancel

(IP-)PBX Integration: PRI, SIP and SIP Trunking



UC functionality as add-on to existing (IP-)PBX users

- › Existing PBX users get new MDU features, existing identity is preserved

Short numbering for non-UC users

- › Users can call and be called with short numbers
- › Publicly, they are presented with one leading public phone number

SIP trunking

- › Substantial cost reduction with migration from legacy TDM to IP-based network
- › Complements UC deployments
- › SBC for IP edge security and secure access from mobile clients
- › Centralised, distributed or hybrid deployment

Universal dialling

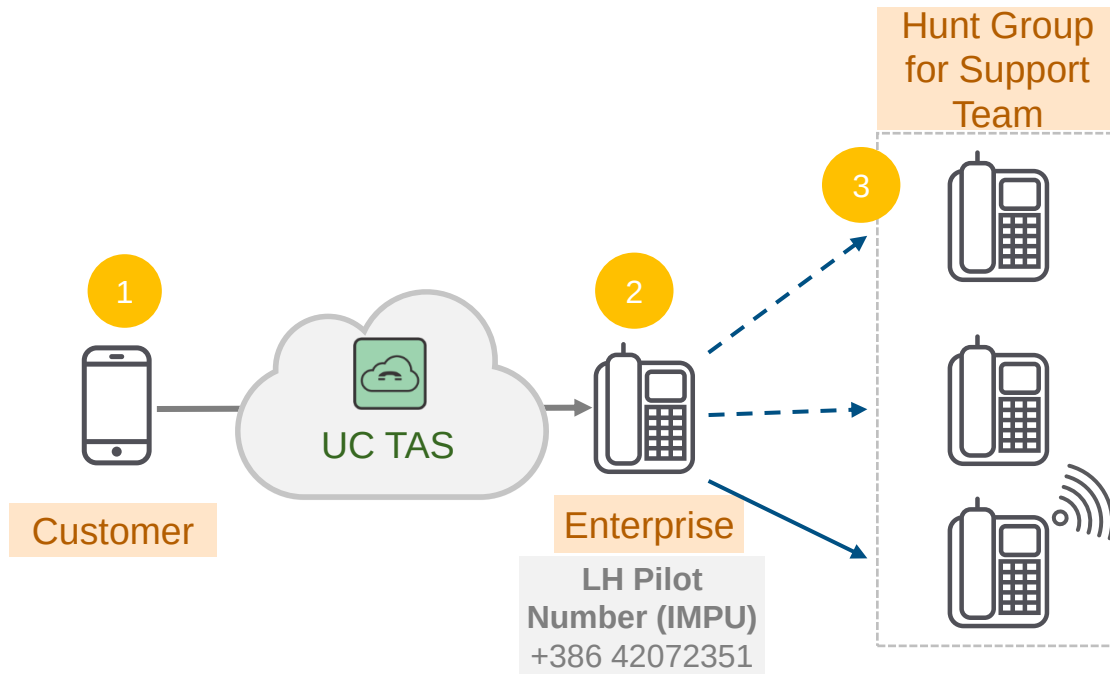
- Outside Business Group
 - Public



- Intra Business Group
 - Internal
 - Public

- › No exit code needed (PNAC)
- › Call-type=internal for BG members
 - Dial **internal number**
 - Dial **public number**
DN, NDC+DN, +CC+NDC+DN
- › Company and public contacts can be inserted uniformly (by public numbers) into device Phone book

Automatic call distribution - Hunt groups

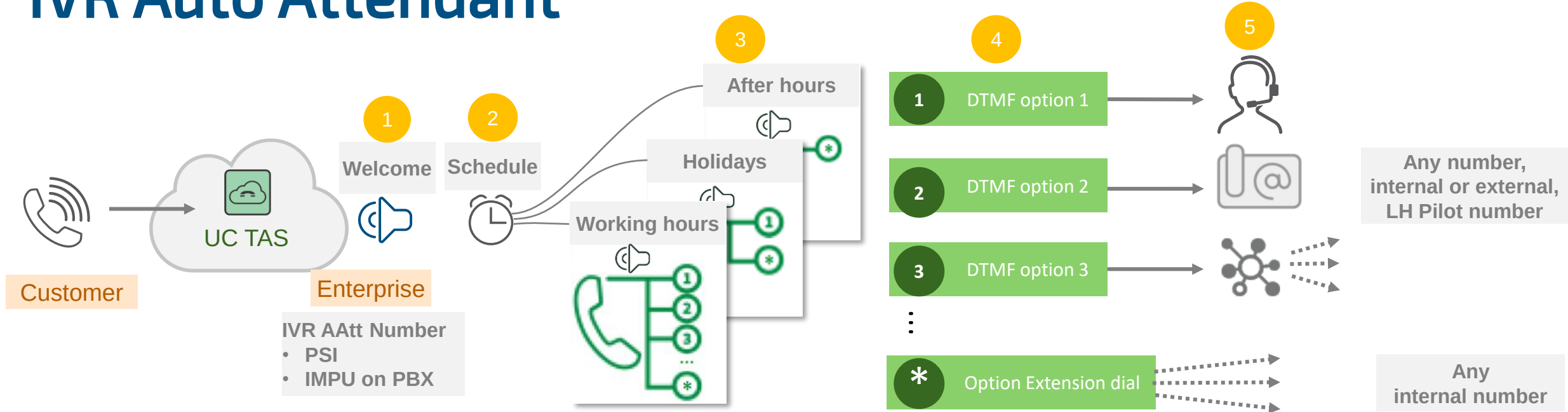


- 1 A customer wishing to connect to a support representative of an enterprise, dials the pilot number: +386 42072351.
- 2 The customer is played a ringing tone and is informed that he shall be connected to a support representative shortly.
- 3 Since the first two support representatives are not available, the customer call is connected to the third representative.

- ✓ Multiple users (hunt group members) act as a single group.
- ✓ If current user is busy, the call goes to the next available member.
- ✓ Various group hunting algorithms: "Linear Hunting", "Circular (Round Robin) Hunting", "Parallel hunting" and "Most-Idle hunting".
- ✓ Call queuing in case all hunt group members are busy.
- ✓ Members receives indication^{Roadmap} that call is received from LH pilot (special ringing, tag on display).
- ✓ Self-care administration by EA

IVR Auto Attendant

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Benefits:

- Simple Web-based configuration Wizard - can be configured by anybody: personalized announcements (built-in recording), schedule, DTMF options
- Enterprise admin delegate self-care to "moderators" (selected users from users in BG)
- Routing calls without receptionist (24/7)
- Call statistics

Notification Call

- 1 Select / record announcement
- 2 Add/import participants
- 3 Start event
- 4 See report

Note: Schedule in calendar not available yet

Уведомительный вызов

Тема: *

Звонок оповещения будет совершен с номера телефона:
083833

Уведомление: *
Пожалуйста, выберите одно уведомление из вашего с

Время окончания оповещения:
31/05/2018 16:55

Участники 0

Начать Уведомление-звонок сейчас Очистить

B2

	A	B
1	Name	Phone number
2	Samo Flerin	38642072351
3		
4		
5		

NEW CONFERENCE_PA

Добавить участника Удалить Все

Имя	Телефонный номер	Удалить
Не найдены участники		

10

Timeline

Download '.xls'

fgdfgdfgdfgfg

18/05/2018 15:18 3885 dial-out - success

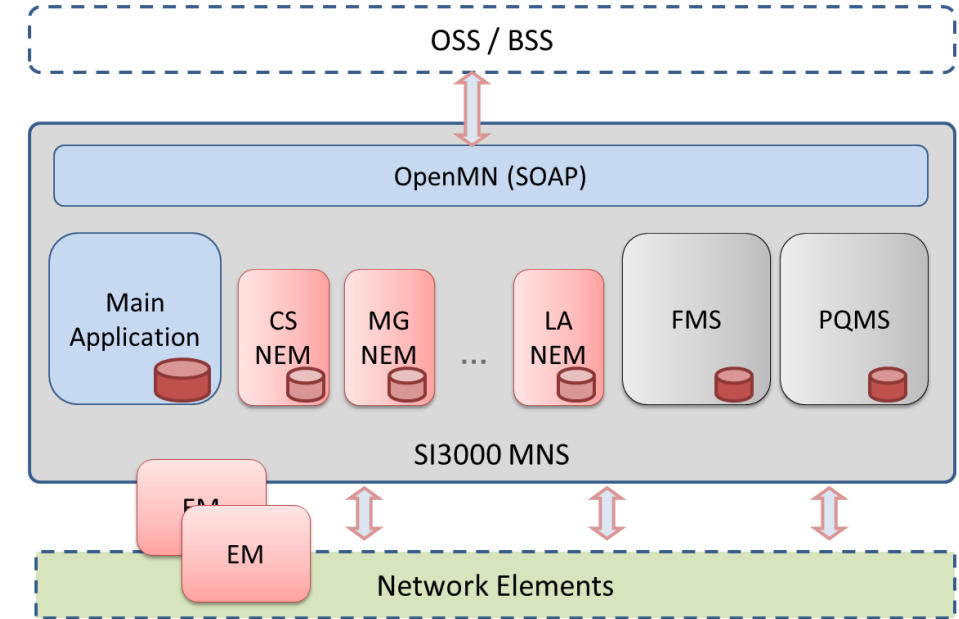
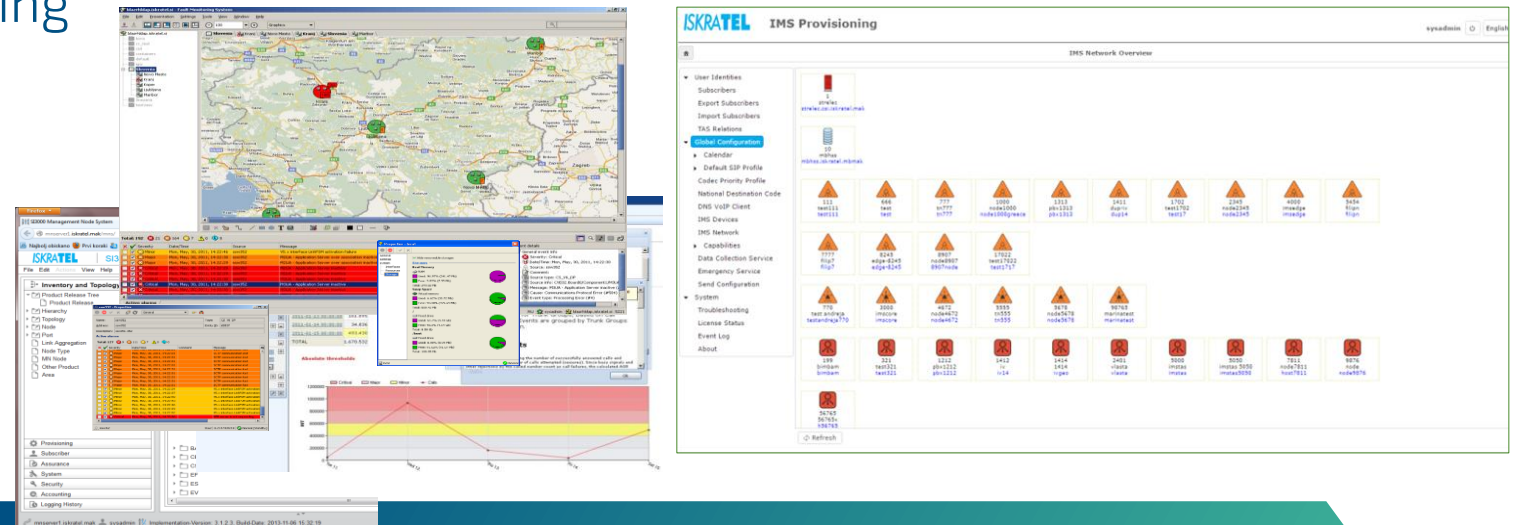
18/05/2018 15:20 3885 call ended - canceled

	A	B	C	D	E	F
1	Name	Phone number	Beginning of the call	Duration	Status	Reason
2	Mihu Telefon Pri	3885	18.05.2018 - 15:18:15	00:02:29	success	
3						

Management System

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- › Cost-effective centralised management of Iskratel and 3rd-party network elements
- › Mass operations and profile-based provisioning: easy reuse of services
- › Automation of provisioning with easy northbound integration with OSS/BSS
- › Southbound 3rd-party integration
- › Alarm and performance monitoring
- › VNF Element Managers
- › IMS Service Provisioning
- › Support for virtualisation, high availability and geo-redundant operation



IMS Subscriber Provisioning (IMS SP)



Automation of service provisioning

User-friendly, intuitive GUI

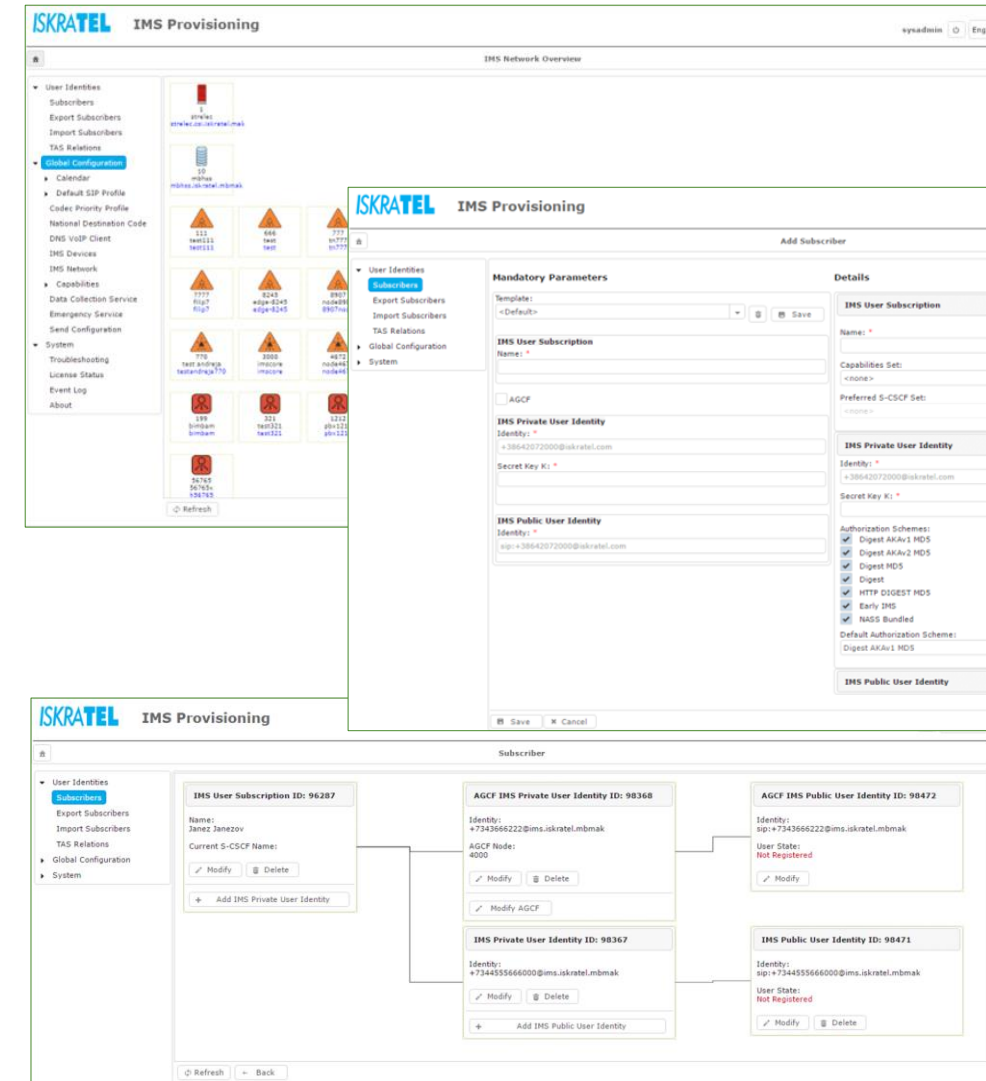
Efficient OpenIMS NBI to OSS/BSS

Subscriber management and provisioning

vIMS network configuration

Inventory management

Data import/export



VNF Element Manager (VNF EM)



Centralised 1:N provisioning and mass operations

Wizards for frequent operations

Central inventory

Authentication and authorisation

Off-line NE data preparation

NEM IMS Call Server - 8.0.262

File Actions Help

Subscriber

- Not Linked
- Used for Supplementary Service
- Virtual Subscriber
- All Subscribers
- Analog & ISDN
- SIP
- MGCP
- H.323
- MDU Member
- MDU FMC/Omnipresent Member
- Mobile Centrex
- Change Directory Number & B...
- Subscriber Name Identification
- MSAN Subscriber Insert
- Offered Calls
- Subscriber Status & Reset
- Subscriber Suspension
- Supplementary Service Set
- Value-Added Service
- Prototype Subscriber
- Virtual Subscriber Property S...
- Number Translation
- Special Subscriber
- City Connect
- Access
- Multiple Access Device

Selected Nodes

- 1034 - CS6114BX_34

Unselected Nodes

- 1043 - CS6114BX_43
- 1119 - CS6114_119

SIP

National Destination Code = Find

Directory Number = Clear All

IP Address = Add Criteria

Node	Directory Number	Registration Status	Subscriber Type	Supplementary Service
1034	83-400000	Pregranted on SAK_14	Public	Custom
1034	83-400001	Pregranted on SAK_14	Public	Custom
1034	83-400002	Not registered (on 'SAK_14')	Public	Custom
1034	83-400003	Not registered (on 'SAK_14')	Public	Custom
1034	83-400004	Not registered (on 'SAK_14')	Public	Custom
1034	83-400005	Not registered (on 'SAK_14')	Public	Custom
1034	83-400006	Not registered (on 'SAK_14')	Public	Custom
1034	83-400007	Not registered (on 'SAK_14')	Public	Custom
1034	83-400008	Not registered (on 'SAK_14')	Public	Custom
1034	83-400009	Not registered (on 'SAK_14')	Public	Operator H.323
1034	83-400010	Not registered (on 'SAK_14')	Public	Custom
1034	83-400011	Not registered (on 'SAK_14')	Public	Custom
1034	83-400012	Not registered (on 'SAK_14')	Public	Custom
1034	83-400013	Not registered (on 'SAK_14')	Public	Custom
1034	83-400014	Not registered (on 'SAK_14')	Public	Custom
1034	83-400015	Not registered (on 'SAK_14')	Public	Custom
1034	83-400016	Not registered (on 'SAK_14')	Public	Custom
1034	83-400017	Not registered (on 'SAK_14')	Public	Custom
1034	83-400018	Not registered (on 'SAK_14')	Public	Custom
1034	83-400019	Not registered (on 'SAK_14')	Public	Custom
1034	83-400020	Not registered (on 'SAK_14')	Public	Custom
1034	83-400021	Not registered (on 'SAK_14')	Public	Custom
1034	83-400022	Not registered (on 'SAK_14')	Public	Custom
1034	83-400023	Not registered (on 'SAK_14')	Public	Custom
1034	83-400024	Not registered (on 'SAK_14')	Public	Custom
1034	83-400025	Not registered (on 'SAK_14')	Public	Custom
1034	83-400026	Not registered (on 'SAK_14')	Public	Custom
1034	83-400027	Not registered (on 'SAK_14')	Public	Custom
1034	83-400028	Not registered (on 'SAK_14')	Public	Custom
1034	83-400029	Not registered (on 'SAK_14')	Public	Custom

Row 0/94 0 Selected

Subscriber

Insert Modify Delete Multiple Update Forking Search by Supplementary Service Su

17:14:31 '94' records found.

Fault-Monitoring System (FMS)



IP connectivity and alarm monitoring

- › For SI3000 and 3rd-party network elements

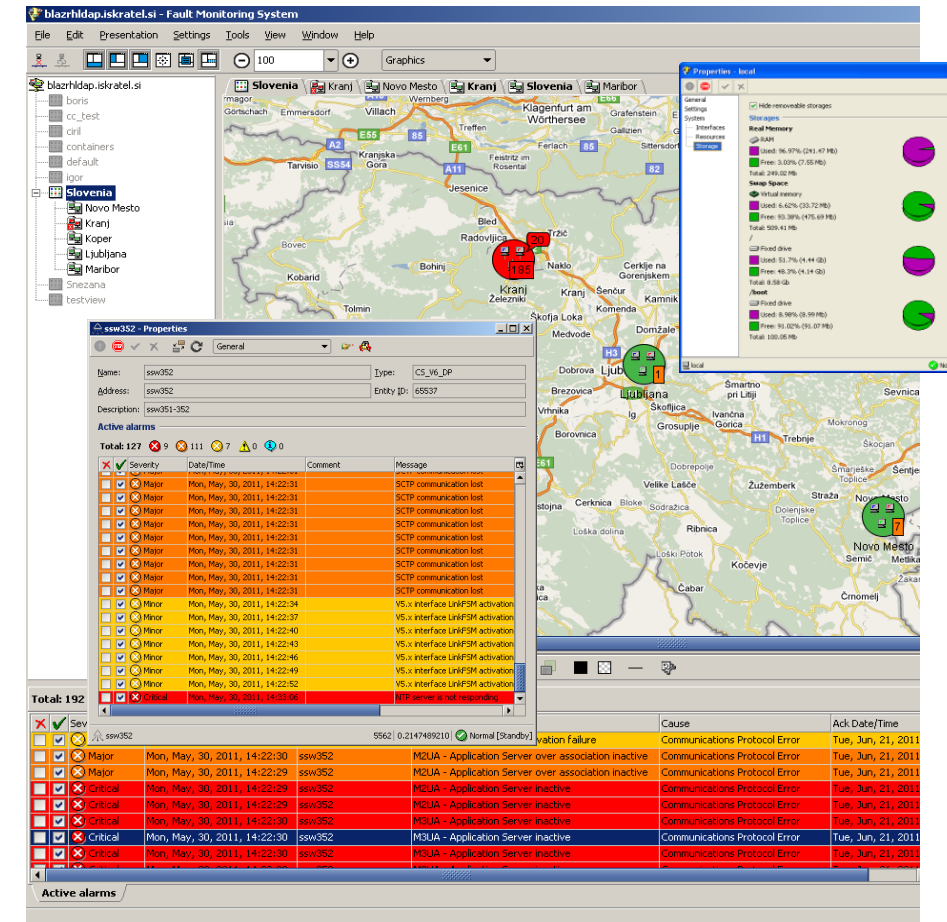
Alarm life-cycle support

- › Alarm (un)acknowledgement
- › Alarm (un)deletion, etc.

User views

- › Monitoring authorisation

Open interface to external alarm systems



OpenMN/OpenIMS Northbound Interfaces

One central point for OSS/BSS connectivity

High-level SOAP/REST interfaces

Easy to integrate with OSS/BSS provisioning automation

Rich set of methods

- › Create/remove/modify subscriber
- › Suspend/resume subscriber services
- › Methods for supplementary services

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