

## OpenScape Business S hosted in private cloud deployments

**Technical Overview** 

August 2024

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## Agenda

- OpenScape Business S in hosted/Cloud Deployments
  - Introduction
  - Scenario Overview
  - Scenarios
  - Multi Instance
  - Data Center Deployment
  - Technical Requirements
  - General Hints
  - Bandwidth
  - Firewall

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# OpenScape Business S in hosted/cloud deployments - Highlights

- Full featured OpenScape Business S operated out of a Datacenter
- Multi Instance Solution hosted by a Partner or Customer
- Own virtualized OSBiz S Instance per Customer (private Cloud)
- Easy Deployment (~15min) via OVA (Open Virtualization Appliance)



OpenScape Business S with Pay As You Go – a perfect business model for Partners to offer a flexible payment model on top of a <u>secure and trustful</u> landscape

# OpenScape Business S in hosted/cloud deployments – Key Advantages

- Lower costs due to specialized provider and less own hardware
- High flexible IT resources and all-time up-to-date infrastructures
- Resilience and high physical safety for your hosted/cloud solution
- Seamless moving of server infrastructures
- OVA Open virtual Appliance (setup within 15 minutes)
- one Image only: "All in one Solution" incl. UC, CC, Fax, Conference
- easy Cloud Setup, deploy OVA, IP Configuration via yast2 or script
- one secure OSBiz S Instance per customer
- easy interface connection (MS-Exchange/LDAP.....)
- Cloud Setup without WBM
- System and User Data Provisioning is part of Reseller.

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## OpenScape Business cloud Scenario overview device@home

#### Simple Deployment

- One VM Instance for each customer for all services
- Flexible license model
- Only Web Collaboration is a Shared Service
- analog a/b Ports via SIP Adapter
- UC with UC Smart via HTTPS



## **Hints Payload**

- for device@home payload routed via OSBiz S because the flag SBC must set for device@home users.
- for other users if connected e.g. via VPN from different locations will be routed direct between locations. Please ensure that the routing for direct payload is possible and set in the Network scenario.
   Means if a User in location A will call a User in Location B or other Locations must be ensured the routing for speech channels (payload) must be configured in the Network.

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### OpenScape Business - Scenario 1 Standard

#### Simple Deployment

- Customer with SIP trunk and one Location
- Only IP User
- One VM Instance for each customer for all services (max. 1500 User)



## OpenScape Business - Scenario 3 Including Gateway



## **OpenScape Business - Scenario 4**



## OpenScape Business - Scenario 5 Multi-Gateway

#### **Simple Deployment**

T1/E1

S0/S2M

- Customer that don't want to use centralized SIP Trunking will use a Gateway at some or all of the locations
- Only Web Collaboration is a Shared Service
- Single Management for Server and Gateway Web based

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 Local Gateway also support DECT and analog Ports



## OpenScape Business - Scenario 6 Multi-Site separate area code on each site



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## Multi-Instance vs. Multi Tenant Approach



to use TDM, fully flexibility

## OpenScape Business hosted/Cloud Multi instance approach deployment, setup and connectors



### OpenScape Business hosted/cloud Multi instance services for each customer



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# Virtualization VMware OVA/OVF SLES with OpenScape Business

For deployment of individual VMware instances in the data center you can download the VMware OVA/OVF\* file from the Partner Portal / SWS.

Login credentials and some hints will be found after opening the OVA with VMware in the Info Field.



\* **OVF** Open Virtualization Format

\* **OVA** Open Virtualization Appliance

## OVA File download via Unify Partner Portal

 Can be found within the Partner Portal Software Download Server

Home Program & T	ools Learn Sell S	upply Support	Mein Land Adm	ninistration					
> Support > Service Too	ls > Software Download							> Add to	My Favorites
Search Export for SW									
<ul> <li>Extended Search</li> <li>Latest/Modified SW</li> </ul>	Text Search:	C	30152-P1603-P17-1 Select previous text : Select previous save	search) d search)					<b>T</b>
> My Saved Searches				or:					
User Functions	Main Category:								•
> Notification	Product Family:								T
Documente	Product:								<b>T</b>
Documents	Product Version:								•
> SWS History	Prod.Item Nr (PIN) / Vers								Ŧ
> SWS FAQs	Production Version:								¥
> Download Manager									
> Service Desk						Sa	ave Cle	ar	Search
3rd Party SW							_	_	_
> Siemens Industry Health	Sort Order Product Vers	ion, SW Version	•	Descending?				Export t	o Excel
	Click for Product	Product Version	Product Item Nr (PIN) / Version	Production Version	SW Vers.	Prod. Code Nr	Status	Import Date	Mod. Date
	> Details OpenScape Business S	OpenScape Business S V2	P30152-P1603-P17- 1 (V2 R0.3.0)	M- OMG2.03.119	V2 R0.3.0	P30152- P1603-P17- 1	General Availability	2015- 11-05	2015-11- 04

#### Deployment Second LAN Interface seperates the Customer Network from public SIP Provider Network



#### OpenScape Business Service Interfaces for Cloud Data Center



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## OpenScape Business S hardware requirements

Hardware Requirements for Standard Server Installation

	Basic (up to 50 User)	Standard (up to 500)	Advanced (1500)
Processor cores / clock per core	2 / 2,5 GHz	2 / 3,0 GHz	4 / 3,5 GHz
RAM	2 GB min.	4 GB	8 GB min
HDD/SSD	60 GB	200 GB	500 GB

• Hardware Requirements for Google Cloud Platform (GCP)

Google / GCP Resource	OpenScape Business S Server Type				
	Basis Standard Adva		Advanced		
GCP Machine	c2d-highcpu-2	c2-standard-4	c2-standard-8		
GCP HDD	60 GB	200 GB	500 GB		

## Hardware Requirements OpenScape Business S

The OpenScape Business S can be installed on a Linux server. The SLES 12 SP5 64-bit version can be used as the operating system. The OpenScape Business S / may also be run in a virtual environment with VMware vSphere.

The server PC must satisfy the following minimum requirements:

- Certified by the PC manufacturer for SLES 12 SP5 64 bit
- The communication software for OpenScape Business must be the only application running on the server (excluding virus scanners)
- At least a dual-core processor with 2.0 GHz per core or more up to 500 Users; 8 cores for more than 500 users
- At least 2 GB RAM (recommended: 4 GB RAM)
- Hard disk (recommended: 60GB [up to 50 users]; 100GB [up to 100 users]; 200 GB [up to 500 users] or more)
- Screen resolution: 1024x768 or higher
- Min 4 vCPUs and 8GB RAM for up to 1000 users

The RAM requirements for the server PC are dependent on the OpenScape Business System expansion and functions used. For the following functions a minimum of 4 GB of RAM (recommended 4 Cores CPU) is a requirement:

- Fax
- OpenScape Contact Center Multimedia Business
- more than 100 users

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## Good to know:

Firewall



#### Good to know: Licensing with Advanced Locking ID (ALI)

#### The following parameters are necessary for the licensing :

- IP Address of the virtual instance from the system
- DNS Server Address
- Default Gateway
- Hostname
- Time zone

Please note: A change of one or several of these parameters requires a license "rehost" on Central License Server

#### Good to know: Supported Virtualization Platforms

#### VMWare

OVA File exist and can be used or manual installation (for details look into our documentation: administration OpenScape Business S)

#### Microsoft Hyper V

manual installation (only static mode) (for details look into our documentation: administration OpenScape Business S)

#### KVM

Linux based Virtualization, released on a project specific base

#### **Google Cloud Platform**

OVA File exist and can be used or manual installation (for details look into our documentation: administration OpenScape Business S)

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#### Bandwidth between Data Center und Customer Location ISDN Gateway at Customer Location (Scenario 1)



#### Bandwidth between Data Center und Customer Location ISDN Gateway at Customer Location

#### **Boundary conditions**

- 1. ISDN Gateway at Customer Location(!)
- 2. Prioritization Real time Information / QoS must be available; Latency and Packet loss accordingly Unify Guideline for VoIP
- 3. All values are for G.711 Codec and default Packet Size
- 4. All values for Standard Voice Mail usage (Message and length)
- 5. Bandwidth must be symmetrical available (in both directions)
- 6. Bandwidth deficits can have effects on existing connections, not only for new connections
- 7. Other hosted applications, additional to OpenScape business may have effects on Bandwidth (e.g., E-Mail, Web Collaboration, File Space, Terminal Server, Virtual Desktops, ...) it is necessary to calculate additional bandwidth for this services

#### Bandwidth between Data Center und Customer Location ISDN Gateway at Customer Location

	Standard	Power User	Standard + CC	Power + CC
User on Location Site	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>No Contact Center</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic(0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>No Contact Center</li> <li>Many conferences</li> </ul>	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>10% CC Agents</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic (0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>10 % CC Agents</li> <li>Many conferences</li> </ul>
10	0,34 Mbit/s	0,40 Mbit/s	0,46 Mbit/s	0,50 Mbit/s
20	0,44 Mbit/s	0,50 Mbit/s	0,63 Mbit/s	0,69 Mbit/s
50	0,76 Mbit/s	0,87 Mbit/s	1,15 Mbit/s	1,25 Mbit/s
100	1,18 Mbit/s	1,40 Mbit/s	1,88 Mbit/s	2,08 Mbit/s
150	1,57 Mbit/s	1,88 Mbit/s	2,55 Mbit/s	2,84 Mbit/s
200	1,94 Mbit/s	2,33 Mbit/s	3,21 Mbit/s	3,58 Mbit/s
400	3,33 Mbit/s	4,07 Mbit/s	5,70 Mbit/s	6,41 Mbit/s

#### Bandwidth requirements btw. datacenter and customer site ISDN gateway or SIP connection in the Cloud (Scenario 2)



#### Bandwidth requirements btw. datacenter and customer site ISDN gateway or SIP connection in the Cloud

#### **Boundery conditions**

- 1. ISDN Gateway or SIP connection in the Cloud (!)
- 2. Prioritization of real-time information / QoS must be available; Latency and packet loss corresponding to the Unify requirements for VoIP
- 3. All mentioned values are for G.711 Codec and Standard package size
- 4. All values are for a standard usage of voice mail (Message traffic and retrieval, number and length of messages)
- 5. The mentioned symmetrical bandwidth must be available (in both directions)
- 6. Bandwidth deficits may also affect existing connections, located not only on newly started or under start conditions
- 7. Are in the data center additional OpenScape Business Application Server hosted further more (eg E-Mail, Web Collaboration, File Server, Terminal Server, Virtual Desktops, etc.) increases the bandwidth required to meet the requirements of these services

#### Bandwidth requirements btw. datacenter and customer site ISDN gateway or SIP connection in the Cloud

	Standard	Power User	Standard + CC	Power + CC
User on Location Site	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>No Contact Center</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic(0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>No Contact Center</li> <li>Many conference</li> </ul>	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>10% CC Agents</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic (0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>10 % CC Agents</li> <li>Many conferences</li> </ul>
10	0,43 Mbit/s	0,58 Mbit/s	0,64 Mbit/s	0,78 Mbit/s
20	0,62 Mbit/s	0,86 Mbit/s	0,99 Mbit/s	1,21 Mbit/s
50	1,09 Mbit/s	1,58 Mbit/s	1,86 Mbit/s	2,31 Mbit/s
100	1,76 Mbit/s	2,64 Mbit/s	3,16 Mbit/s	3,99 Mbit/s
150	2,39 Mbit/s	3,65 Mbit/s	4,41 Mbit/s	5,61 Mbit/s
200	2,99 Mbit/s	4,62 Mbit/s	5,62 Mbit/s	7,18 Mbit/s
400	5,29 Mbit/s	8,38 Mbit/s	10,31 Mbit/s	13,31 Mbit/s

## Bandwidth requirements btw. Datacenter and two customer location (Scenario 3)



## Bandwidth requirements btw. Datacenter and two customer location

#### **Boundery conditions**

- 1. ISDN Gateway or SIP connection in the Cloud (!)
- 2. Prioritization of real-time information / QoS must be available; Latency and packet loss corresponding to the Unify requirements for VoIP
- 3. All mentioned values are for G.711 Codec and Standard package size
- 4. All values are for a standard usage of voice mail (Message traffic and retrieval, number and length of messages)
- 5. The mentioned symmetrical bandwidth must be available (in both directions)
- 6. Bandwidth deficits may also affect existing connections, located not only on newly started or under start conditions
- 7. Are in the data center additional OpenScape Business Application Server hosted further more (eg E-Mail, Web Collaboration, File Server, Terminal Server, Virtual Desktops, etc.) increases the bandwidth required to meet the requirements of these services

## Bandwidth requirements btw. Datacenter and two customer location

User on Location Site	Standard <ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>No Contact Center</li> <li>Less conferences</li> </ul>	<ul> <li>Power User</li> <li>High Traffic(0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>No Contact Center</li> <li>Many conference</li> </ul>	Standard + CC Normal Traffic (0,15 Erl.) 50% Voice Only 50% UC (myPortal) 50% use Voice Mail No Personal Fax 10% CC Agents Less conferences	<ul> <li>Power + CC</li> <li>High Traffic (0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>10 % CC Agents</li> <li>Many conferences</li> </ul>
10	0,42 Mbit/s	0,45 Mbit/s	0,70 Mbit/s	0,73 Mbit/s
20	0,60 Mbit/s	0,64 Mbit/s	1,06 Mbit/s	1,10 Mbit/s
50	1,01 Mbit/s	1,09 Mbit/s	1,99 Mbit/s	2,06 Mbit/s
100	1,62 Mbit/s	1,74 Mbit/s	3,40 Mbit/s	3,51 Mbit/s
150	2,18 Mbit/s	2,34 Mbit/s	4,75 Mbit/s	4,90 Mbit/s
200	2,72 Mbit/s	2,92 Mbit/s	6,07 Mbit/s	6,26 Mbit/s
400	4,78 Mbit/s	5,13 Mbit/s	11,17 Mbit/s	11,51 Mbit/s

#### Bandwidth requirements btw. Datacenter and two customer location ISDN Gateways or SIP in the Cloud (Scenario 4)



#### Bandwidth requirements btw. Datacenter and two customer location ISDN Gateways or SIP in the Cloud

#### **Boundery conditions**

- 1. ISDN Gateway or SIP connection per customer location in the Cloud (!)
- 2. Prioritization of real-time information / QoS must be available; Latency and packet loss corresponding to the Unify requirements for VoIP
- 3. All mentioned values are for G.711 Codec and Standard package size
- 4. All values are for a standard usage of voice mail (Message traffic and retrieval, number and length of messages)
- 5. The mentioned symmetrical bandwidth must be available (in both directions)
- 6. Bandwidth deficits may also affect existing connections, located not only on newly started or under start conditions
- 7. Are in the data center additional OpenScape Business Application Server hosted further more (eg E-Mail, Web Collaboration, File Server, Terminal Server, Virtual Desktops, etc.) increases the bandwidth required to meet the requirements of these services

#### Bandwidth requirements btw. Datacenter and two customer location ISDN Gateways or SIP in the Cloud

	Standard	Power User	Standard + CC	Power + CC
User on Location Site	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>No Contact Center</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic(0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>No Contact Center</li> <li>Many conference</li> </ul>	<ul> <li>Normal Traffic (0,15 Erl.)</li> <li>50% Voice Only</li> <li>50% UC (myPortal)</li> <li>50% use Voice Mail</li> <li>No Personal Fax</li> <li>10% CC Agents</li> <li>Less conferences</li> </ul>	<ul> <li>High Traffic (0,18 Erl.)</li> <li>25% Voice Only</li> <li>75% UC (myPortal)</li> <li>75% use Voice Mail</li> <li>25% use Personal Fax</li> <li>10 % CC Agents</li> <li>Many conferences</li> </ul>
10	0,52 Mbit/s	0,59 Mbit/s	0,70 Mbit/s	0,79 Mbit/s
20	0,76 Mbit/s	0,91 Mbit/s	1,09 Mbit/s	1,25 Mbit/s
50	1,39 Mbit/s	1,71 Mbit/s	2,11 Mbit/s	2,44 Mbit/s
100	2,29 Mbit/s	2,93 Mbit/s	3,66 Mbit/s	4,27 Mbit/s
150	3,15 Mbit/s	4,07 Mbit/s	5,14 Mbit/s	6,01 Mbit/s
200	4,00 Mbit/s	5,19 Mbit/s	6,58 Mbit/s	7,73 Mbit/s
400	7,24 Mbit/s	9,52 Mbit/s	12,19 Mbit/s	14,43 Mbit/s

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# OpenScape Business hints for external firewall settings

In general all ports should closed from and to OpenScape Business S (and X Models) The document should give some hints and examples to help and understand OpenScape Business S (or X Models) behind a Router / Firewall

Changes and configuration of the Firewall happens on your own risk

In most scenarios, the OpenScape Business is behind a SOHO NAT Router and nothing has to be configured, exception Device@home (for HFA and SIP) and UC Smart or myPortal to go.

On the next page you find the term Client and Server: Client is the sender to start the session (for e.g. OpenScape Business in some scenarios) Server is the receiver of the session (for e.g. SIP Provider in some scenarios)

Remote access for Administration via WBM from Internet

For a Secure Remote Access to OpenScape Business Web Based Management (Administration) it is strictly recommended to use

RSP – Remote Service Platform instead of using a public IP via <u>https://ip-address</u>

If external WBM access needed, please use OSBiz Software V3

SIP Provider Trunk example for Sipgate



OpenScape Business works as a client and initiate the session to the SIP provider via domain name sipgate.de Port 5060 and can reach different sipgate servers.

Behind standard SOHO NAT routers Firewall should not opened because in this scenario OpenScape Business works as a client and initiate the session .

SIP Provider Trunk example for Sipgate Firewall rules



SIP provider via **domain name** sipgate.de, port 5060. OpenScape Business RTP/UDP Range 30274:30529\* OSBiz X 30528:30887\* OSBiz S used for payload. NAT traversal usually via STUN port 3478

If it is necessary to open the firewall from direction SIP provider Port 5060 please use the IP provider addresses, but							
never "any IP addresses" ( <b>Security</b> !)							
Firewall rule from Internet:	Source IP 217.10.79.9	Destination IP 192.168.1.	2 Port TCP 5070				
	Source IP 217.10.68.147	Destination IP 192.168.1.	2 Port TCP 5070				
	Get the IP Addre	esses of all Servers from	the Provider, can be much more.				
Firewall rule to Internet:	Source: IP 192.168.1.2	Port TCP 3478	Destination: Internet				
	Source: IP 192.168.1.2	Port UDP 29274:30529*	Destination: Internet				

SIP Provider Trunk hints external Firwall

• RTP:

If necessary to add a rule for incoming RTP packages, (Server/SIP Provider) you have to request the UDP Port Range from the SIP-Provider. The incoming RTP/UDP Ports

• STUN:

e.g.: If you used Port 3478 from OSBiz (works as Client) it can be the Server answered on a different Port e.g.: Port 3479

Device@Home (HFA)



Teleworker Device @ Home works as a client and initiate the session to OpenScape Business via IP-Address or dyndns Port 4062 RTP/UDP Range 29274:30529 OSBiz X 30528:30887 OSBiz S used for payload OpenScape Business for STUN works as a Client e.g.: 3478

Firewall rules necessary:				
Firewall rule and				
Router forwarding from Internet:	: Source: IP 87.24.23.44	Port TCP 4062	Destination: IP 192.168.1.2	Port 4062
	Source: IP 87.24.23.44	Port UDP 29274:30529	Destination: IP 192.168.1.2	Port 29274:30529
Firewall rule to Internet:	Source: IP 192.168.1.2	Port TCP 3478	Destination: Internet	

A technical configuration guide for Device@Home can be found here: http://wiki.unify.com/wiki/OpenScape Business#System.28HFA.29Device.40Home

Pay as you go example for Firewall rules if needed



Behind standard SOHO NAT routers Firewall should not opened because in this scenario OpenScape Business works as a client and							
initiate the session							
Firewall rule from OSBiz:	Source 192.168.1.2	Port TCP 7780	Destination IP 188.64.16.4	Port TCP 7780			
Firewall rule from OSBiz:	Source 192.168.1.2	Port TCP 7790	Destination IP 188.64.16.4	Port TCP 7790			

Software Update Server example for Firewall rules if needed



OpenScape Business works as a Client

Behind standard SOHO NAT routers Firewall should not opened because in this scenario OpenScape Business works as a client and<br/>initiate the sessionFirewall rule from OSBiz:Source 192.168.1.2Port TCP 443Destination IP 188.64.17.244Port TCP 443

Remote Service Platform example for Firewall rules if needed



OpenScape Business works as a Client and open a VPN to the Remote Service Plattform

Behind standard SOHO NAT routers Firewall should not opened because in this scenario OpenScape Business works as a client and initiate the session Firewall rule if needed: Port 443 RSP Registrar: 188.64.18.51 und 188.64.17.51 VPN Server: 188.64.18.50 und 188.64.17.50



## **Thank You!**

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