



# Agenda

- ❑ **Company Profile**
- ❑ **UCM6100 series Introduction and Features**
- ❑ **UCM6100 series Unified Communication Solutions**



**Grandstream Networks Inc. Locations**

## Leading Research and Development Capabilities:

- ✓ 5 R&D centers in US and China.
- ✓ Over 500 employees with 50% developers and engineers.
- ✓ More than 10 years experience and innovations in technologies of SIP protocol, voice and video algorithm, chip integration, business software and hardware design with low cost.
- ✓ Market-oriented products.
- ✓ Industry-leading development and testing environment of telecom industry level.

# Agenda

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- ❑ **UCM6100 series Unified Communication Solutions**

## UCM6100 series Major Market

- ✓ Office environment that requires remote communications, Fax and surveillance equipment.
- ✓ 10-200 employees enterprise.
- ✓ Multiple UCM6100 series deployment can support up to 5000 employees business.
- ✓ Free software license.
- ✓ 2 years warranty.

## UCM6100 series Main Features

- ✓ All-in-one IP PBX.
- ✓ Support up to 500 extensions.
- ✓ 4G Byte NAND Flash.
- ✓ 50,000 minutes call recording.
- ✓ 20,000 digital Fax files.

### All-In-One Design

- FXS/FXO gateway, low cost and high stability

### LCD Menu

- Easy installation and web access via IP address

### Easy Configuration

- End-points deployment via Zero-Config and PnP

### LDAP Server

- For daily office communication purpose

### Recording/Fax

- 50,000 minutes recording, 20,000 Fax digital files

### High Reliability

- ITU-T K.21 standard
- Telecom industry level IP PBX testing procedure

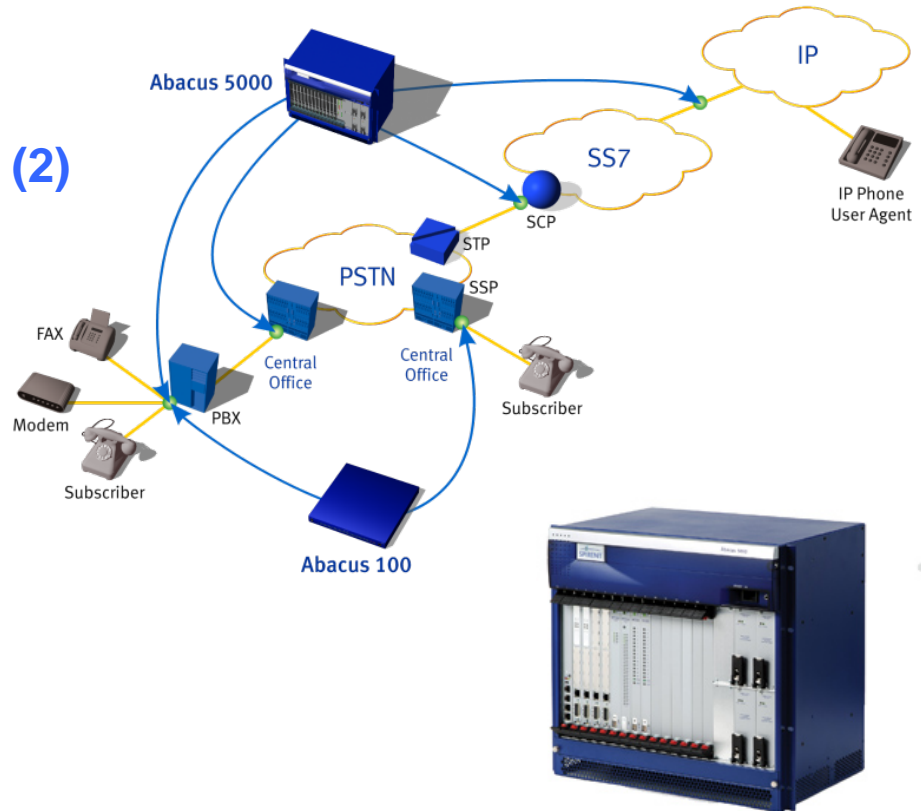


## UCM6100 series High Reliabilities (1)

- ✓ All-in-one IP PBX.
- ✓ FCC, CE certified.
- ✓ ITU-T K.21 standard (over-voltage and over-current protections, installation stability.)
- ✓ 3.8W-14W low power cost.

## UCM6100 series High Reliabilities (2)

- ✓ Pressure testing: 0.001% call lost rate in 500,000 calls.
- ✓ PESQ=4.5 in 3,000,000 calls.
- ✓ Testing equipments include Spirent Abacus 5000, Abacus 100, NLG, WIN3540.



## UCM6100 series Maintenance

- ✓ End-points can be deployed in Zero-config and PnP style.
- ✓ PSTN automatic detection and configuration.
- ✓ Web remote access and management.
- ✓ LCD screen for easy operation.
- ✓ USB port for backup via USB flash drive.
- ✓ Ethernet capture and Syslog.

## UCM6100 series Interface

Model	UCM6102	UCM6104	UCM6108	UCM6116
Network Interface	Gigabit (10/100/1000M adaptive)			
Concurrent Calls	30	45	60	60
Router/NAT	Yes	N/A		
FXO Port	2	4	8	16
FXS Port	2 FXS ports (both with lifeline capability in case of power outage)			
Flash Memory	4G Byte Flash			
Others	LCD, USB, SD, LED indications, RJ45, RJ11, built-in fan			
Mounting	Desktop or wall mount		Rack installation	
Power supply	Power adapter, PoE			
Power consumption	3.3 - 13w		3.8 - 14W	



### UCM6116

- ◆ 1G ARM, high performance multi-core DSP processor
- ◆ 512M DDR, 4G Byte Flash
- ◆ Gigabit network port (10/100/1000 adaptive)
- ◆ **Support 16 FXO Ports**
- ◆ Support 2 FXS Ports
- ◆ Support LCD and navigation panel
- ◆ Support USB and SD
- ◆ Power adapter, built-in fan, LED indicators and etc

### UCM6108

- ◆ 1G ARM, multi-core DSP high performance processor
- ◆ 512M DDR, 4G Byte Flash
- ◆ Gigabit network port (10/100/1000 adaptive)
- ◆ **Support 8 FXO Ports**
- ◆ Support 2 FXS Ports
- ◆ Support LCD and navigation panel
- ◆ Support USB and SD
- ◆ Power adapter, built-in fan, LED indicators and etc



## UCM6104

- ◆ 1G ARM, high performance multi-core DSP processor
- ◆ 512M DDR, 4G Byte Flash
- ◆ Gigabit network port (10/100/1000 adaptive)
- ◆ **Support 4 FXO Ports**
- ◆ Support 2 FXS Ports
- ◆ Support LCD and navigation panel
- ◆ Support USB and SD
- ◆ Power adapter, built-in fan, LED indicators and etc

## UCM6102

- ◆ 1G ARM, high performance multi-core DSP processor
- ◆ 512M DDR, 4G Byte Flash
- ◆ **Gigabit dual-network port (10/100/1000 adaptive)**
- ◆ **Support 2 FXO Ports**
- ◆ Support 2 FXS Ports
- ◆ Support LCD and navigation panel
- ◆ Support USB and SD
- ◆ Power adapter, built-in fan, LED indicators and etc

## UCM6100 series LCD

1 View IP address, status

Easy access to basic info  
even after mounting

2 View PBX status

Maintenance and  
diagnosis

3 Interactive menu

Navigation and  
basic settings



## UCM6102 Network Interface

- 1 **Dual Gigabit network ports** → **Network management**
- 2 **Embedded router and firewall** → **Low cost**
- 3 **Embedded PoE** → **Easy installation and deployment**



**UCM6102 Only**



## UCM6100 series FXS Ports for Analog Phone and Fax

**1 2 FXS ports**

**Low cost**

**2 T.30 and T.38 Fax over IP**

**Paperless Fax**

**3 Over-voltage/over-current protection  
Lifeline capability during power outage**

**High stability**



## UCM6100 series FXO Ports for PSTN Line

1 Multiple FXO ports

Low cost

2 PSTN automatic detection

Easy setup

3 Over-voltage/over-current protection  
Lifeline capability during power outage

High stability



# UCM6100 series End-to-End Solution

**Add-on Service**

**SIP Server**

**Fax Server**

**Record Server**

**GSurf\_PRO VMS**

**Video Management Server**

**Voicemail Server**

**Company Phonebook**

**End point Management Server**

**UCM6100 series System**

**IP PBX**



**UCM6102/UCM6104**



**UCM6108/UCM6116**

**Gateway**

**IAD (FXS)**

**FXO**



**HT701/2/4**



**HT502/3**



**GXW4004/8**



**GXW4216/24/32/48**



**GXW4104/8**

**IP Phone**



**GXP116x**



**GXP140x**



**GXP1450**



**GXP2100**



**GXP2124**



**GXP2200**



**GXV3140/3175**



## UCM6100 series Call Features

<b>Basic Features</b>	Auto Attendant (IVR)	Call Forward	Black/White List	Attended/Blind Transfer
	Call Record (CDR)	Call Queue	Callback	Music On Hold
	Caller ID	Call Park	Intercom/Paging	Voicemail
	Conference Bridge	Call Pickup	Ring Group	Call Forwarding
	Do Not Disturb (DND)	Call Waiting	Multi-language	ACD
<b>Advance Features</b>	Record Server	LDAP Server	Busy Lamp Field (BLF)	802.1X Access
	Zero Config	Video Codec Negotiation	DID	Mobile Extension
	Firewall/Router	Fax Server	Fax-to-Email	TLS
	Media Security (SRTP)	FXO Automatic Detection	3-way Video Conference	Billing Interface (3 <sup>rd</sup> party)

## UCM6100 series IVR Menu

The UCM6100 series IVR provides auto-attendant service, including welcome prompt, IVR menu, operator, call transfer and etc. The user-friendly IVR menu helps build up good business image for enterprises.



## UCM6100 series Virtual Call Center

The UCM6100 series supports call queue, ring group, transfer and other call features. This builds up a low cost VoIP virtual call center to enhance service quality at business level. Employees in different locations can use the virtual call center which lowers the deployment complexity and improves efficiency.



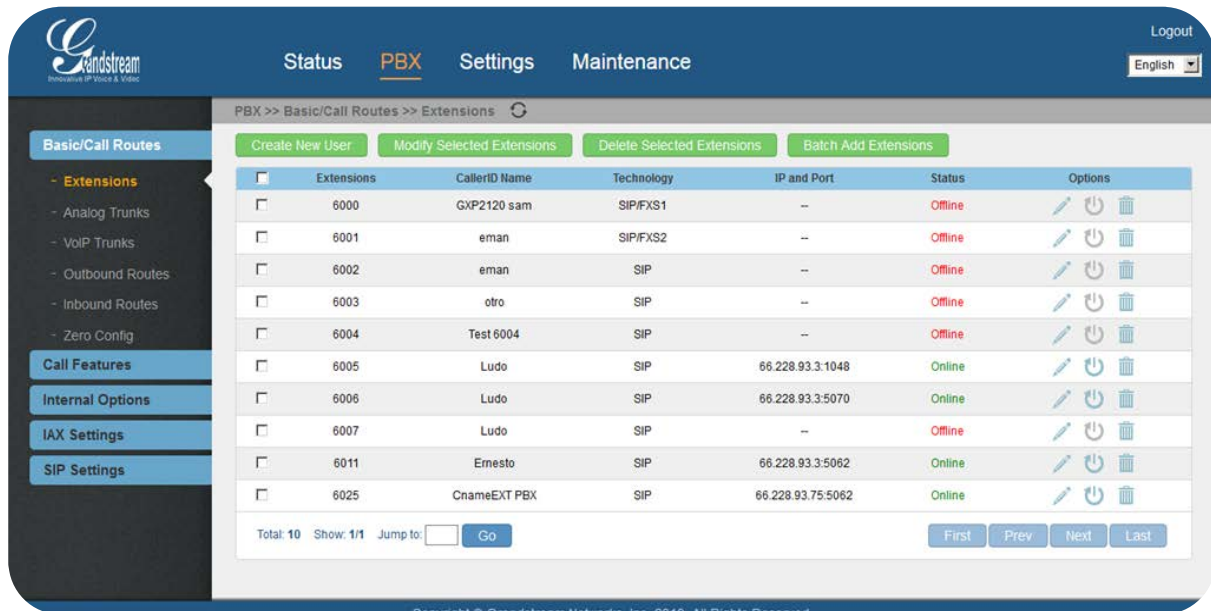
## UCM6100 series BLF Monitoring

The UCM6100 series supports BLF and Call Pickup for SIP end-point (especially with extension board) to monitor extension status and pick up the calls. This is commonly used in front desk or secretary scenarios, which helps improve business communication efficiency.



## Managing the UCM6100 series with Ease

- Support Web access for remote management.
- Support LCD and navigation panel so the device information such as IP address can be easily accessed after mounting to the rack.
- User-friendly web GUI menu for configuration, management and maintenance.



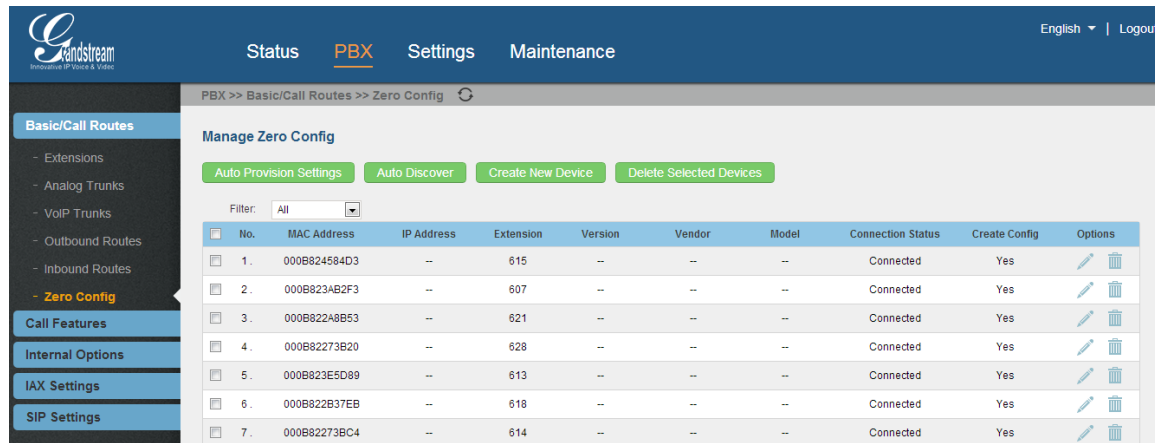
The screenshot displays the Grandstream web GUI for managing extensions. The interface includes a navigation menu on the left with options like 'Basic/Call Routes', 'Call Features', 'Internal Options', 'IAX Settings', and 'SIP Settings'. The main content area shows a table of extensions with columns for 'Extensions', 'CallerID Name', 'Technology', 'IP and Port', 'Status', and 'Options'. The table lists 10 extensions, with 7 being 'Online' and 3 being 'Offline'. The 'Options' column provides icons for editing, power, and deleting each extension. At the bottom, there are controls for 'Total: 10', 'Show: 1/1', 'Jump to:', and 'Go', along with 'First', 'Prev', 'Next', and 'Last' buttons.

Extensions	CallerID Name	Technology	IP and Port	Status	Options
6000	GXP2120 sam	SIP/FXS1	--	Offline	[Edit] [Power] [Delete]
6001	eman	SIP/FXS2	--	Offline	[Edit] [Power] [Delete]
6002	eman	SIP	--	Offline	[Edit] [Power] [Delete]
6003	otro	SIP	--	Offline	[Edit] [Power] [Delete]
6004	Test 6004	SIP	--	Offline	[Edit] [Power] [Delete]
6005	Ludo	SIP	66.228.93.3:1048	Online	[Edit] [Power] [Delete]
6006	Ludo	SIP	66.228.93.3:5070	Online	[Edit] [Power] [Delete]
6007	Ludo	SIP	--	Offline	[Edit] [Power] [Delete]
6011	Ernesto	SIP	66.228.93.3:5062	Online	[Edit] [Power] [Delete]
6025	CnameEXT PBX	SIP	66.228.93.75:5062	Online	[Edit] [Power] [Delete]

















## End-point Auto Provisioning

- Support auto-provisioning for Grandstream devices.
- Support real-time configuration by refreshing the extension in UCM6100 series web page.
- Support Plug-and-Play (PnP) and batch configuration.

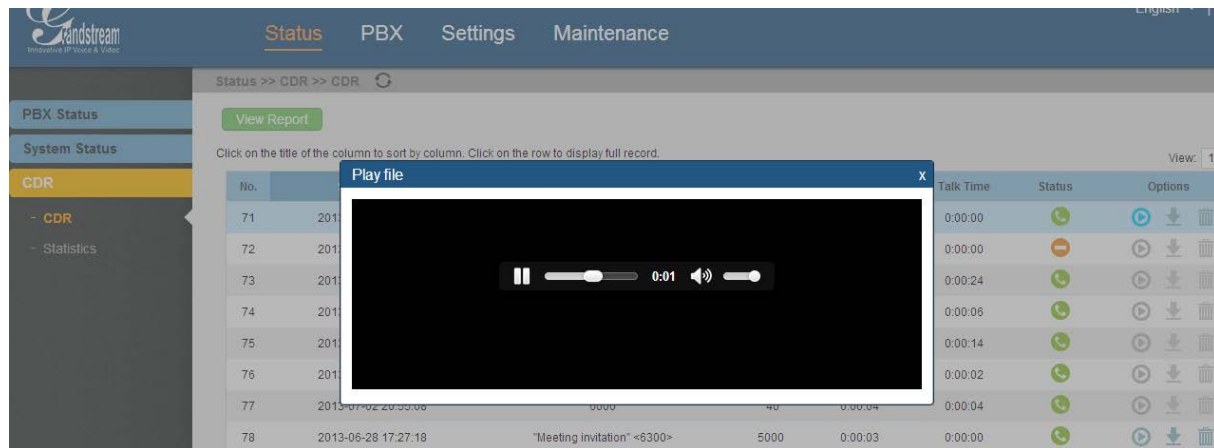


The screenshot displays the Grandstream PBX web interface. The top navigation bar includes 'Status', 'PBX', 'Settings', and 'Maintenance'. The left sidebar shows a menu with 'Basic/Call Routes' selected, containing sub-items like 'Extensions', 'Analog Trunks', 'VoIP Trunks', 'Outbound Routes', 'Inbound Routes', and 'Zero Config'. The main content area is titled 'Manage Zero Config' and features buttons for 'Auto Provision Settings', 'Auto Discover', 'Create New Device', and 'Delete Selected Devices'. Below these buttons is a table with columns for No., MAC Address, IP Address, Extension, Version, Vendor, Model, Connection Status, Create Config, and Options. The table lists seven devices, all with a 'Connected' status and a 'Yes' option for 'Create Config'.

No.	MAC Address	IP Address	Extension	Version	Vendor	Model	Connection Status	Create Config	Options
1.	000B824584D3	--	615	--	--	--	Connected	Yes	 
2.	000B8234B2F3	--	607	--	--	--	Connected	Yes	 
3.	000B822A8B53	--	621	--	--	--	Connected	Yes	 
4.	000B82273B20	--	628	--	--	--	Connected	Yes	 
5.	000B823E5D89	--	613	--	--	--	Connected	Yes	 
6.	000B822B37EB	--	618	--	--	--	Connected	Yes	 
7.	000B82273BC4	--	614	--	--	--	Connected	Yes	 

## Recording Server

- Support 500,000 minutes call recording in built-in memory.
- Recording length can be extended via USB flash drive.
- Recording file can be played and downloaded from UCM6100 series web GUI.
- Automatic recording.



The screenshot shows the Grandstream web GUI with the following elements:

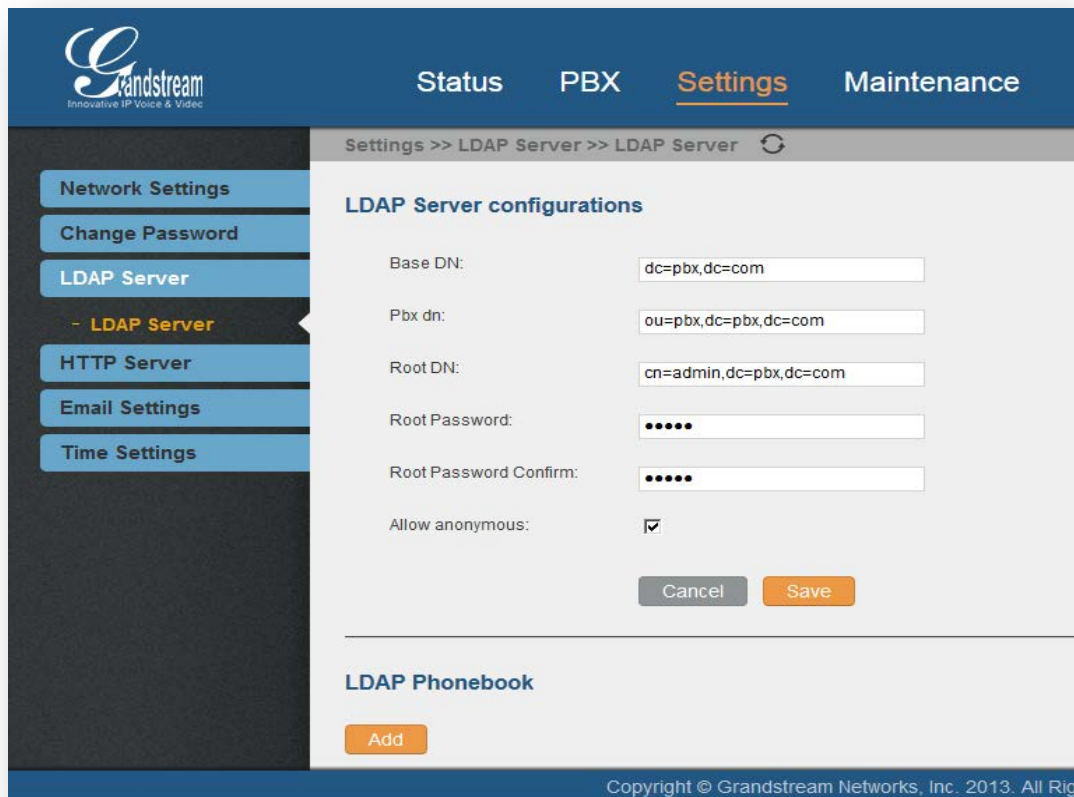
- Navigation menu: Status (selected), PBX, Settings, Maintenance.
- Breadcrumbs: Status >> CDR >> CDR.
- Buttons: View Report.
- Table headers: No., Talk Time, Status, Options.
- Table data (rows 71-78):

No.	Talk Time	Status	Options
71	0:00:00	📞	🔍 ⬇️ 🗑️
72	0:00:00	🚫	🔍 ⬇️ 🗑️
73	0:00:24	📞	🔍 ⬇️ 🗑️
74	0:00:06	📞	🔍 ⬇️ 🗑️
75	0:00:14	📞	🔍 ⬇️ 🗑️
76	0:00:02	📞	🔍 ⬇️ 🗑️
77	0:00:04	📞	🔍 ⬇️ 🗑️
78	0:00:03	📞	🔍 ⬇️ 🗑️

The 'Play file' dialog box is a video player with a play button, a progress bar at 0:01, and a volume icon.

## Embedded LDAP server

- Support 1000 phonebooks.
- Default LDAP Phonebook generated for UCM6100 series extensions
- Search contact number via department or name
- Grandstream phones can be auto-provisioned to use the UCM6100 series LDAP server default phonebook



The screenshot displays the Grandstream UCM6100 web interface. The top navigation bar includes 'Status', 'PBX', 'Settings' (highlighted), and 'Maintenance'. The breadcrumb trail reads 'Settings >> LDAP Server >> LDAP Server'. A left sidebar contains menu items: 'Network Settings', 'Change Password', 'LDAP Server' (highlighted), '- LDAP Server', 'HTTP Server', 'Email Settings', and 'Time Settings'. The main content area is titled 'LDAP Server configurations' and contains the following fields:

Base DN:	<input type="text" value="dc=pbx,dc=com"/>
Pbx dn:	<input type="text" value="ou=pbx,dc=pbx,dc=com"/>
Root DN:	<input type="text" value="cn=admin,dc=pbx,dc=com"/>
Root Password:	<input type="password" value="••••"/>
Root Password Confirm:	<input type="password" value="••••"/>
Allow anonymous:	<input checked="" type="checkbox"/>

At the bottom of the configuration section are 'Cancel' and 'Save' buttons. Below this is a section titled 'LDAP Phonebook' with an 'Add' button.

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## Fax Server

- 2 FXS ports.
- T.30/T.38 support.
- Fax can be converted to PDF file, and sent out via Email
- 20,000 digital Fax files
- Performance test done by Spirent testing equipment to guarantee stability.



Fax



Voicemail

The screenshot shows the Grandstream PBX web interface with the 'Extensions' table. The table lists various extensions with their caller IDs, technologies, IP addresses, ports, and statuses. The interface includes navigation tabs for Status, PBX, Settings, and Maintenance, and a sidebar with menu items like Basic/Call Routes, Extensions, Analog Trunks, VoIP Trunks, Outbound Routes, Inbound Routes, Zero Config, Call Features, Internal Options, IAX Settings, and SIP Settings.

Extensions	CallerID Name	Technology	IP and Port	Status	Options
6000	G0P2120 sam	SIPFXS1	--	Offline	/ [Refresh] [Delete]
6001	eman	SIPFXS2	--	Offline	/ [Refresh] [Delete]
6002	eman	SIP	--	Offline	/ [Refresh] [Delete]
6003	oto	SIP	--	Offline	/ [Refresh] [Delete]
6004	Test 6004	SIP	--	Offline	/ [Refresh] [Delete]
6005	Ludo	SIP	66.228.93.3.1048	Online	/ [Refresh] [Delete]
6006	Ludo	SIP	66.228.93.3.5070	Online	/ [Refresh] [Delete]
6007	Ludo	SIP	--	Offline	/ [Refresh] [Delete]
6011	Emesfo	SIP	66.228.93.3.5062	Online	/ [Refresh] [Delete]
6025	CnameEXT PBX	SIP	66.228.93.75.5062	Online	/ [Refresh] [Delete]



Email

## Conference Server

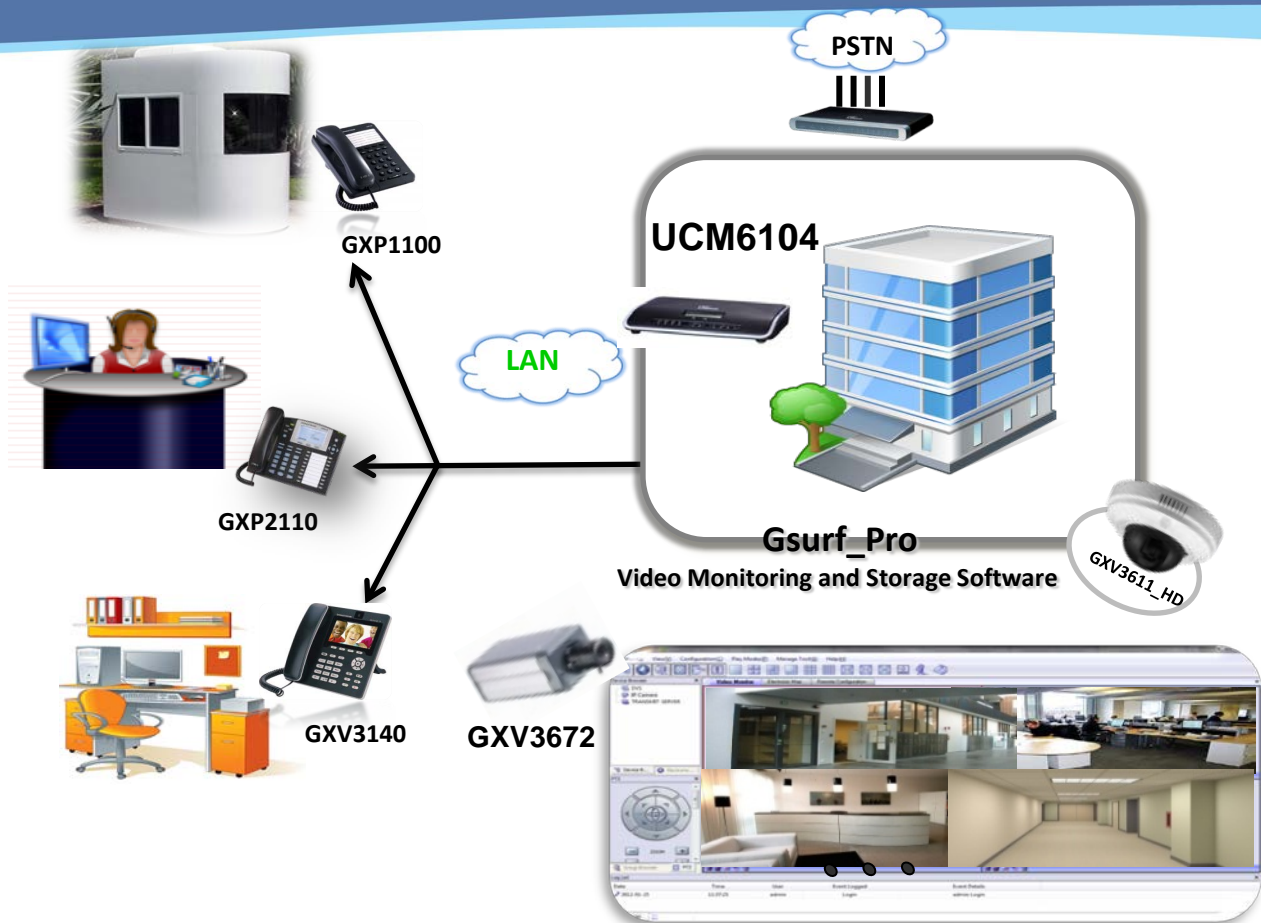
- Built-in conference bridge feature on UCM6100 series
- Support invitation via conference administrator or web GUI
- Support PIN code to access conference bridge
- Conference IVR menu options include inviting other parties, mute, lock conference room, kick off participants and etc.



	UCM6116/6108	UCM6104/6102
Max. Number of Conference Bridge	6	3
Max. Number of Participants	32	25

## Integration of Surveillance Service

- Grandstream has a free VMS platform (Gsurf\_Pro) for video monitoring and management which can be installed on PC.
- IP camera can be installed and then registered to the UCM6100 series.
- Video monitoring via SIP.



## BYOD/Mobile Office SIP End-point Compatibility

- 3<sup>rd</sup> party softphone can register to UCM6100 series.
- From softphone installed on your mobile devices, you can check Fax and voicemail remotely.
- Support DECT cordless IP phone to register to the system.



**DP715**



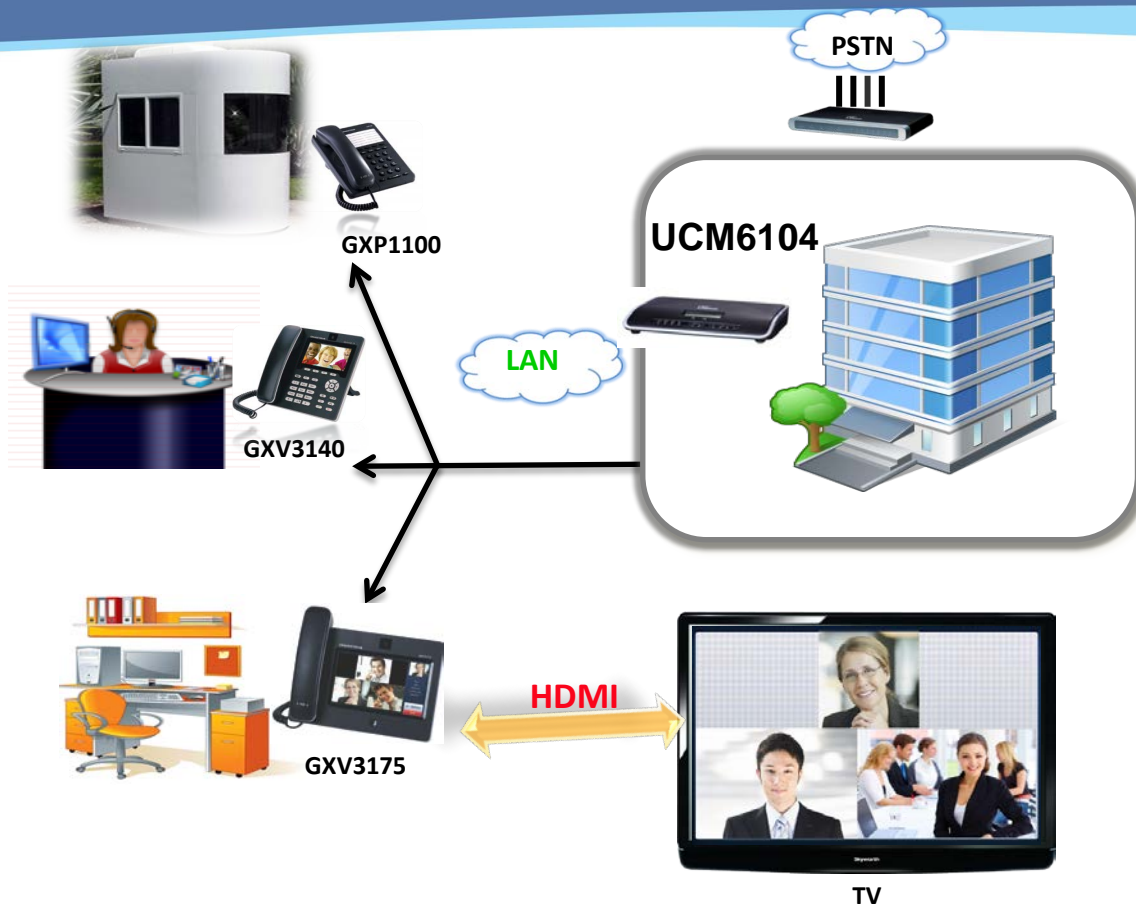
**DP710**

**SIP Softphone**

**3CX, EyeBeam, or other 3<sup>rd</sup> party softphone (most of them are free) supported on Android™, IOS or other mobile platform**

## 3-way Video Conference


- UCM6100 series supports video codec negotiation in SDP
- IP video desk phone (GXV3140, GXV3175 and GXP2200) can be used for 3-way video conference
- HDMI support for audio and video output from GXV3175





## Security

- Embedded system design with system stability and antivirus capabilities
- Network layer security: LLDP, 802.1x
- TLS and SRTP support
- Embedded firewall with static defense and dynamic defense
- Blacklist/Whitelist support
- AES-128 Encryption Algorithm

<b>Network Layer</b>	Support LLDP on data link layer authentication; Support 802.1X authentication for network access; Support firewall/ACL access control.
<b>System Configuration</b>	Inbound route/outbound route with privilege assigned; Log printout; Automatic system backup.
<b>Application</b> 	Support HTTPS for secure remote access; Support AES-128 encrypted data transmission; Random generated password for SIP extensions; Support authentication in SIP registration and calls; Support HTTP Digest (MD5), SIP Digest Algorithm; Support TLS Signaling encryption (UCM6100 series to end-point); Support SRTP real-time media encryption (UCM6100 series to end-point).

## Grandstream SIP End-point Product Line

**HD IP Phone**

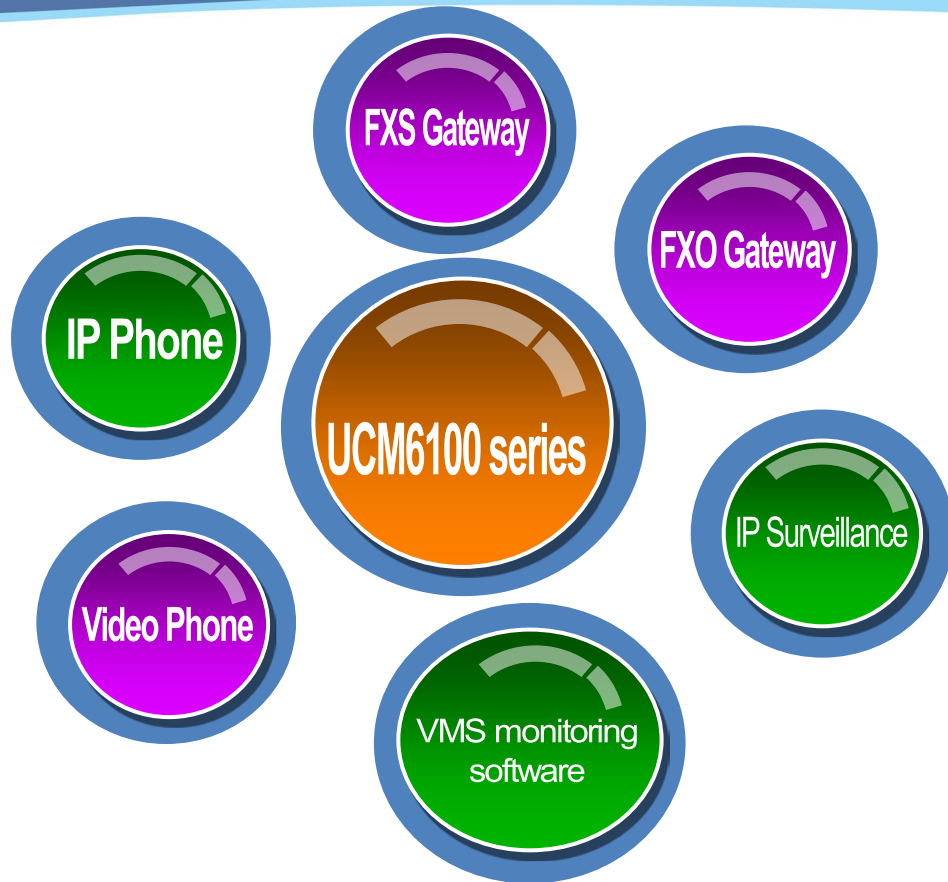
**Multimedia IP Video Phone**

**1-48 Port(s) FXS Gateway**

**4/8 Ports FXO Gateway**

**IP Video Surveillance**

**VMS Monitoring Software**





7" LCD



***GXV3175 Multimedia Video Phone***  
***7" Touchscreen, WiFi, PoE, USB, SD***

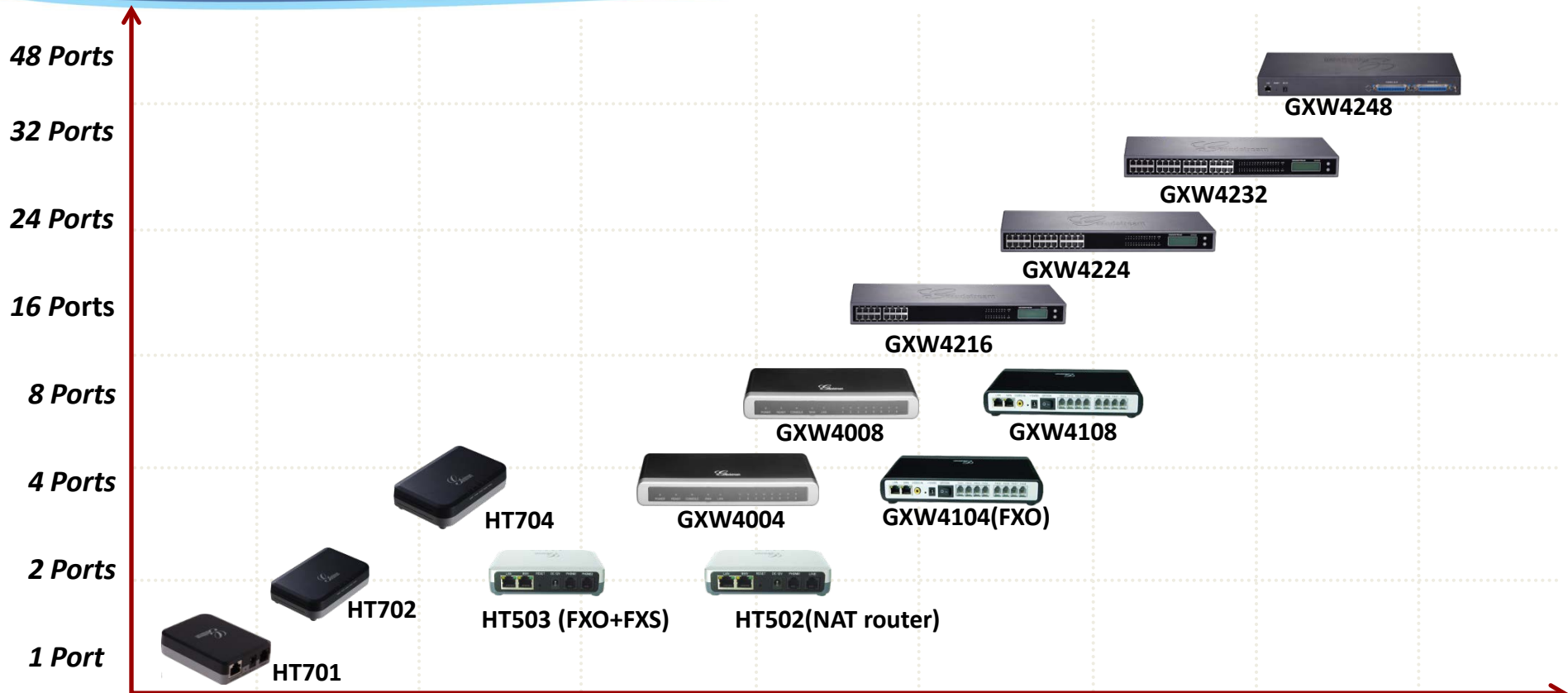
4.3" LCD



***GXV3140 Multimedia Video Phone***  
***4.3" LCD, PoE, USB, SD***



***GXP2200 Android™ Phone***  
***4.3" LCD, PoE, BT, USB Cam***





**GXV3615WP\_HD**



**GXV3611\_HD**



**GXV3651\_FHD**



**GXV3672\_HD/FHD**



**GXV3662\_HD/FHD**



**GXV3674\_HD\_VF**



**GXV3601\_HD**



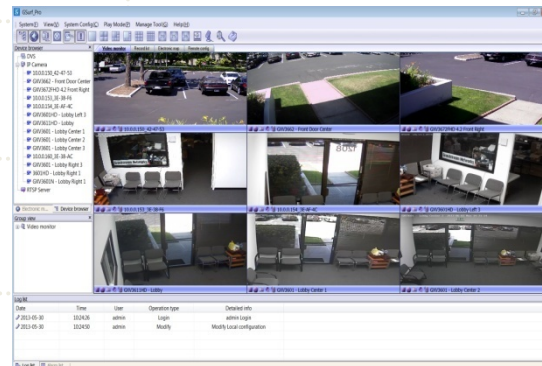
**GXV3610\_HD**



**GXV3500**



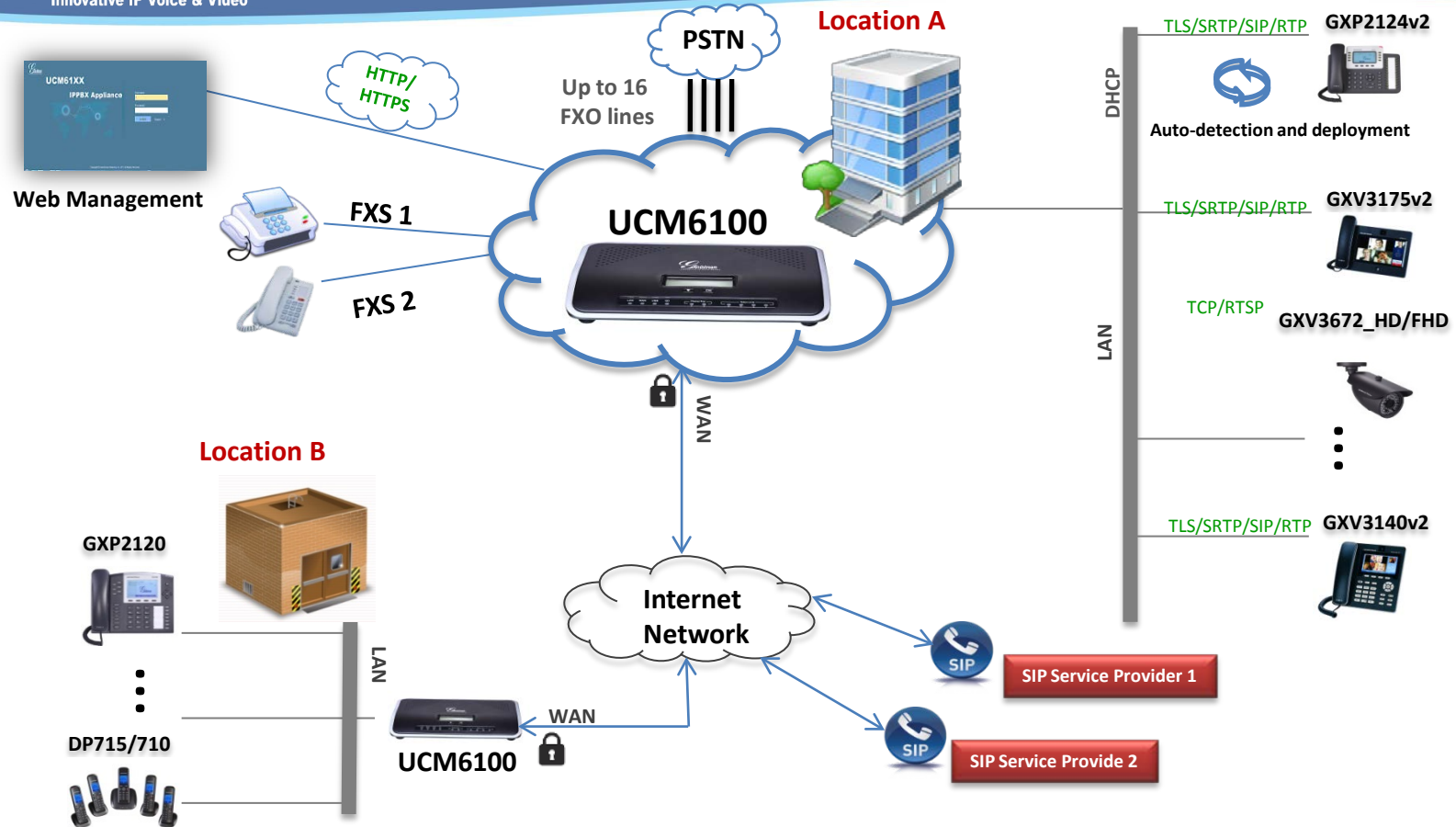
**GXV3504**



**Free VMS software platform Gsurf\_Pro**

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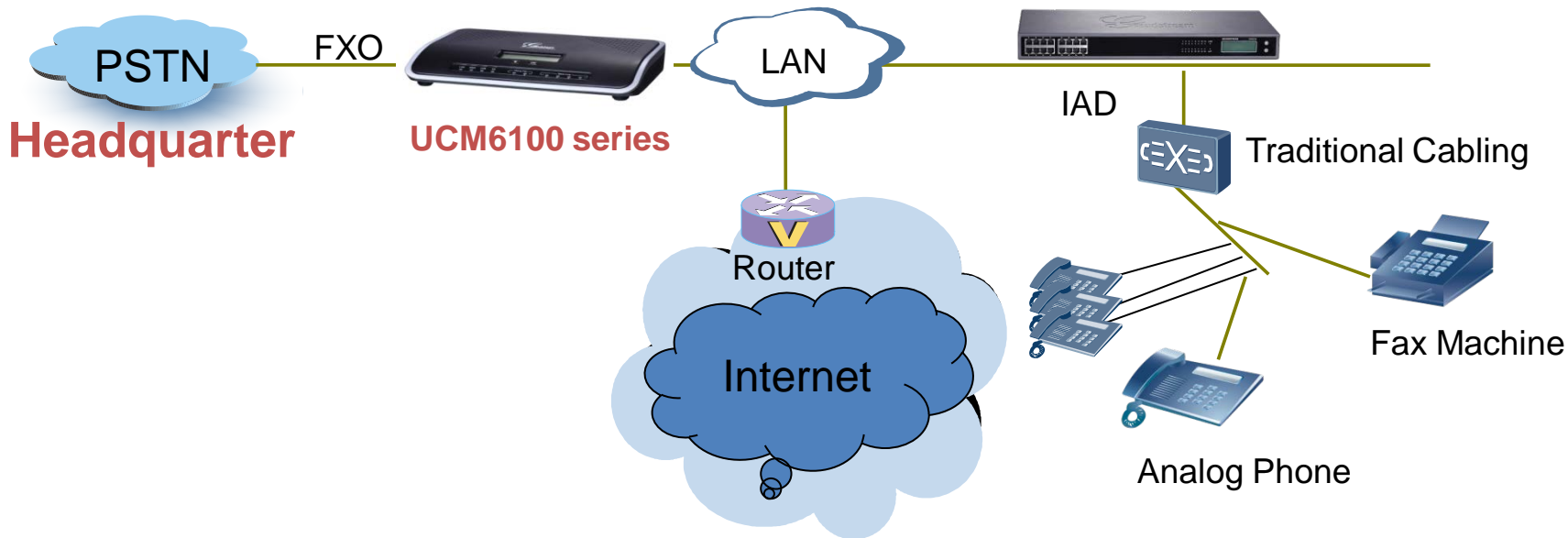
## UCM6100 series Deployment Case Study 1



# Typical Single Office Scenario

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# Plan A: Traditional Cabling System



## Requirement:

PSTN access, low cost.

## Solution:

UCM6100 series provides IVR, ring group, call queue, extensions for end-point, recording service and Fax.

## Equipment:

System Platform: UCM6100 series.

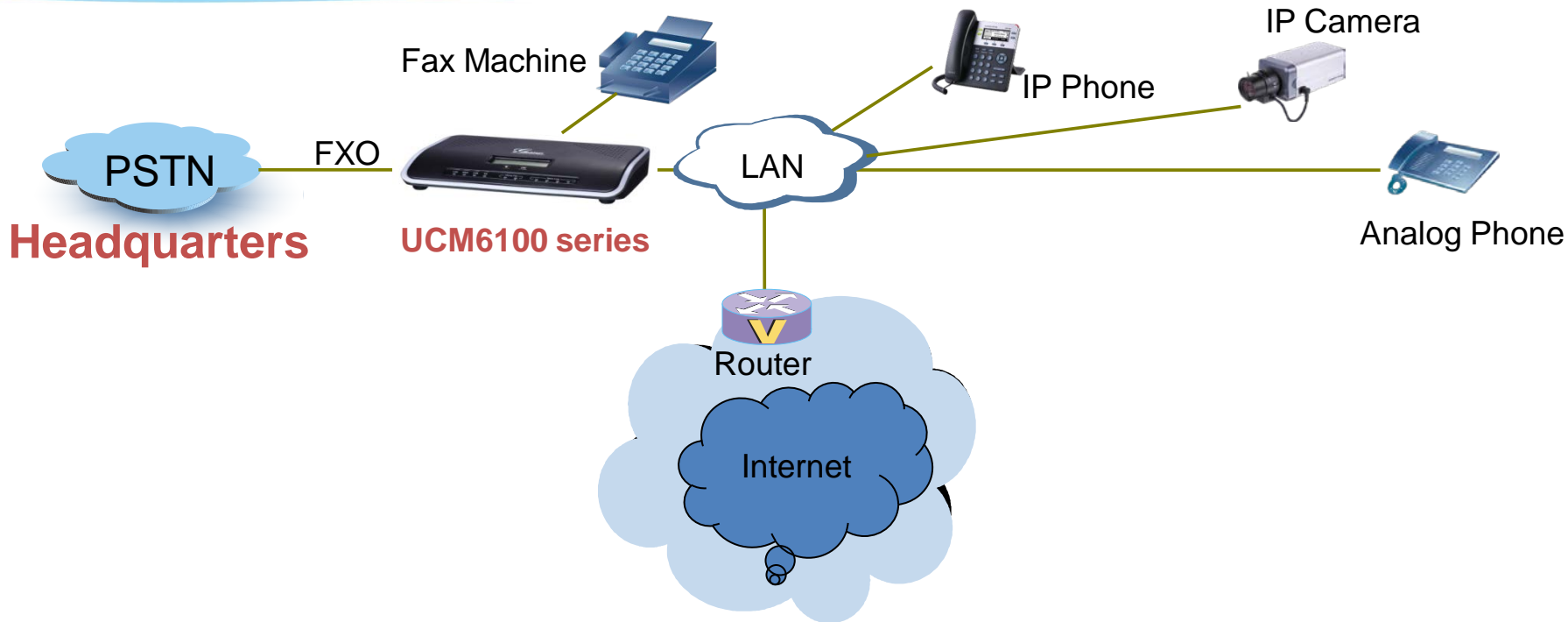
PSTN line (connected to UCM6100 series FXO port).

Fax machine (connected to UCM6100 series FXS port).

GXW42xx (as integrated access device).



# Plan B: Modern Office All IP System



## **Requirement:**

PSTN access, low cost.

## **Solution:**

UCM6100 series provides IVR, ring group, call queue, extensions for end-point, recording service and Fax.

## **Equipment:**

System Platform: UCM6100 series.

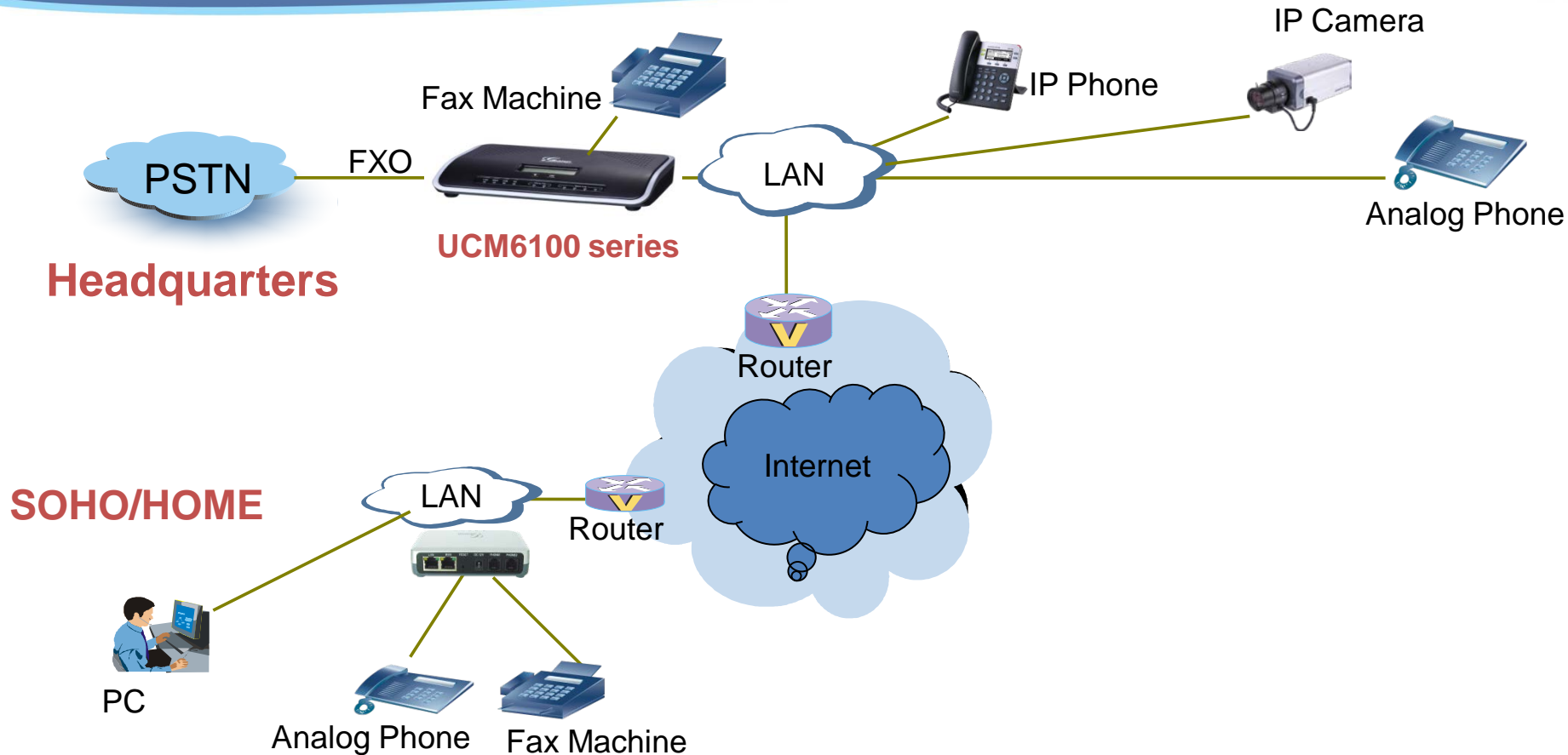
PSTN line (connected to UCM6100 series FXO port).

Fax machine (connected to UCM6100 series FXS port).

IP phone (GXP1400, GXP1160).



# Plan C: SOHO/Home Remote Office Solution



## Requirement:

Part of the employees work remotely.

## Solution:

SIP end-point registers remotely to the UCM6100 series. TLS+SRTP can be used for encryption.

## Equipment:

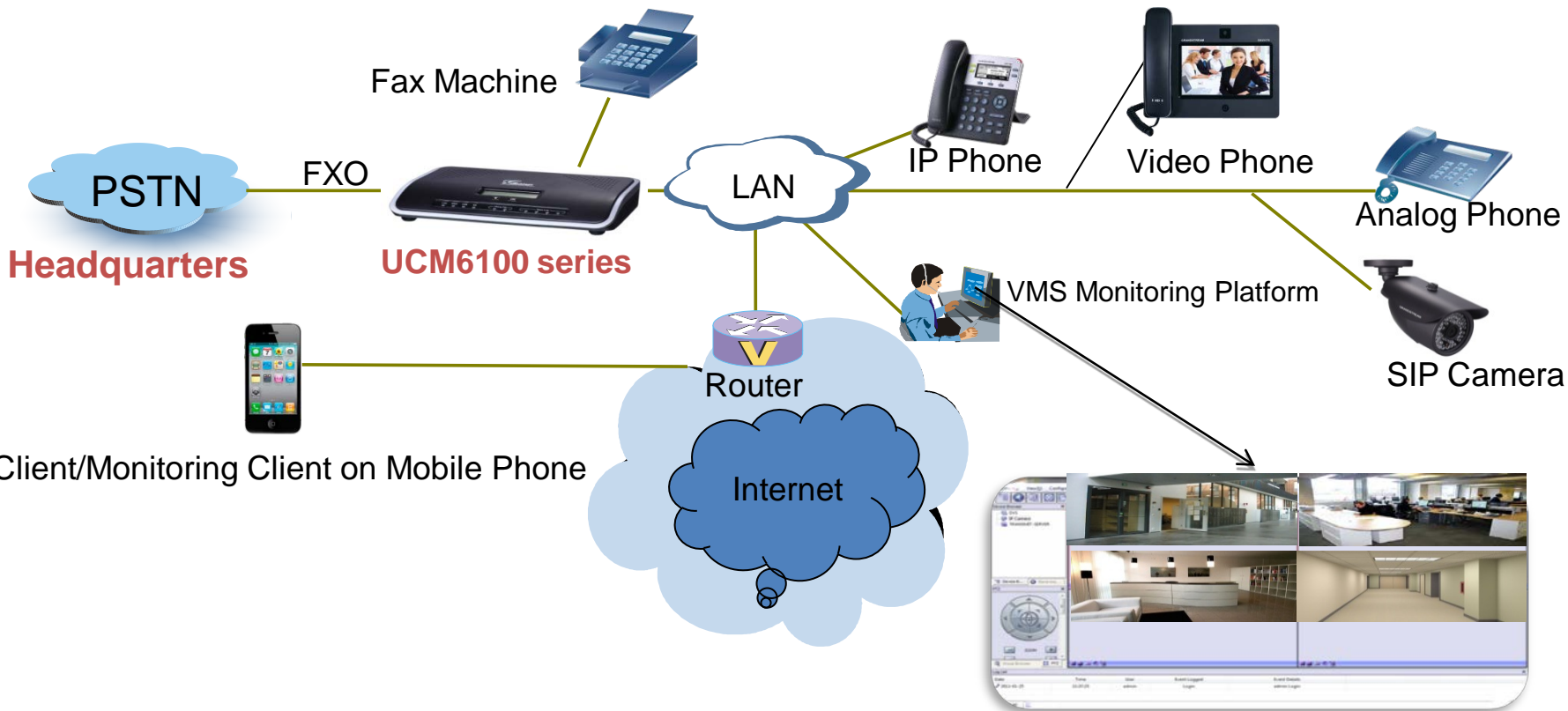
HT502 + Analog phone for routing and remote registration.

Router + HT701 + Analog phone for remote registration.

IP phone.



# Plan D: Integration of Surveillance





## **Requirement:**

IP cameras installed in warehouse and front door for security and monitoring purpose.

## **Solution:**

Install VMS platform Gsurf\_Pro on PC for video recording and storage.

Install monitoring soft client on mobile phone.

Register SIP extension on IP video phone.

Install SIP soft client on touchpad or mobile devices and register SIP extension for real time monitoring.

## **Equipment:**

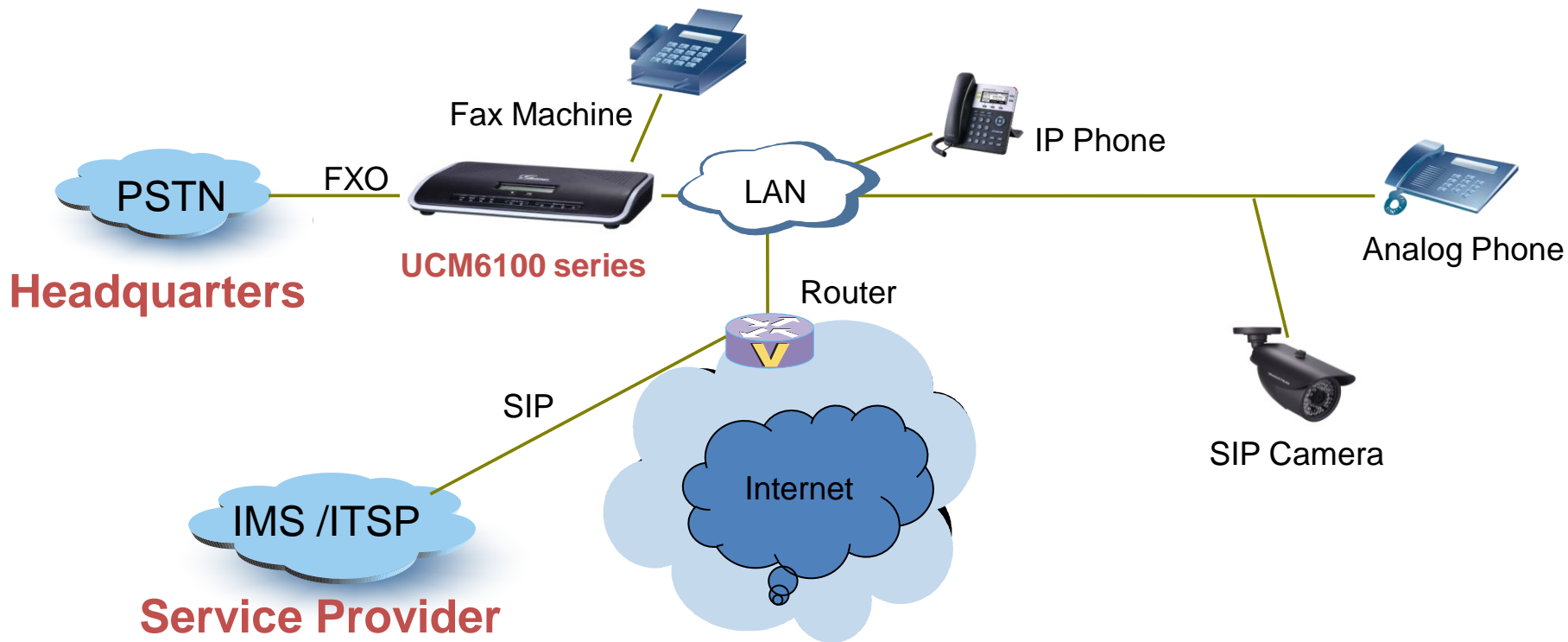
PoE switch + IPC PoE power supply.

IP camera: GXV3610, GXV3672, and etc.

IP video phone: GXV3175.

Mobile devices: iPad or iPhone with SIP soft client installed.

# Plan E: Low Cost SIP Trunk Solution



## **Requirement:**

High speed Internet access, SIP trunk account from service provider, low cost.

## **Solution:**

Register SIP trunk account from service provider.

Keep the original PSTN inbound call routes.

Use the SIP trunk for outbound call based in outbound call routes.

## **Equipment:**

UCM6100 series with SIP trunk properly configured (DID, dial plan and etc).

Set up outbound call routes based on priority and cost from PSNT line and SIP Trunk.

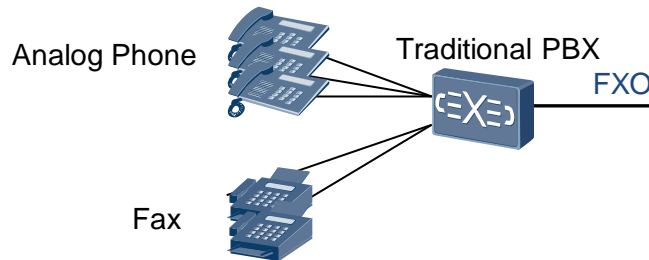
## UCM6100 series Deployment Case Study 2



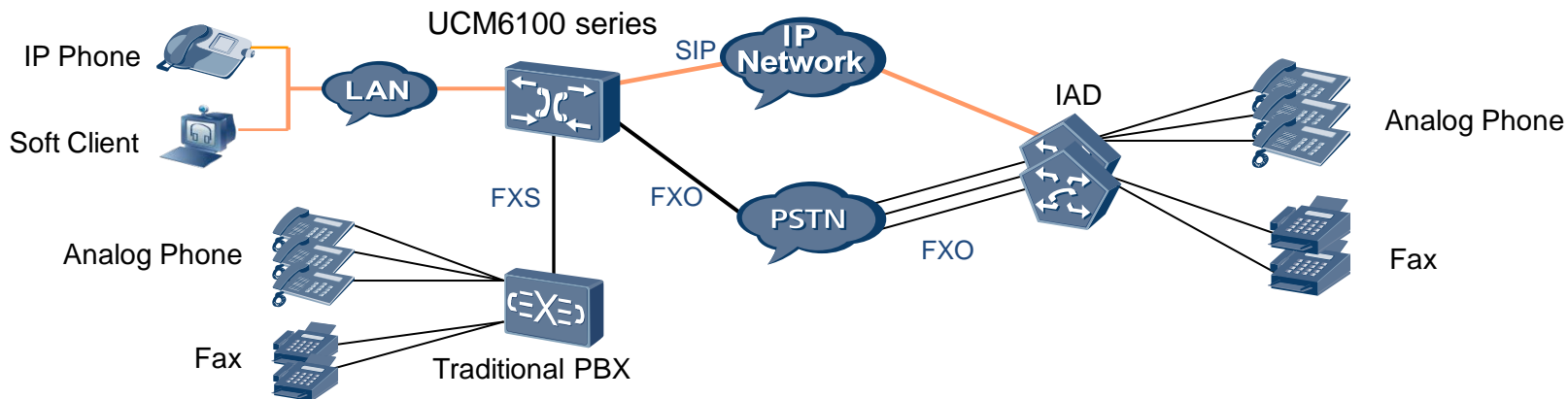
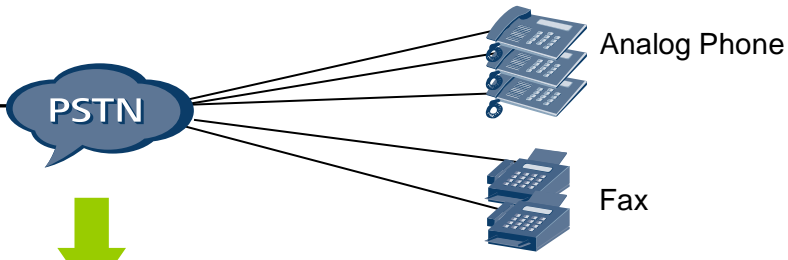
# Migrating Traditional PBX to IP PBX

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### Traditional PBX



### Traditional Phone Line



## **Requirement:**

Enterprise has traditional PBX already and would like to migrate to IP communication solution.

## **Solution:**

Based on current traditional PBX solution, add UCM6100 series and new IP devices so that the migration can be low-cost and smooth.

## **Equipment:**

System platform: UCM6100 series.

End-point: The original PSTN line is connected to UCM6100 series;

Extra PSTN lines are connected to GXW410x;

IP phones, HT503;

GXW42xx or GXW400x can be used;

Call routing needs to be configured properly so the original dial plan can still be kept.

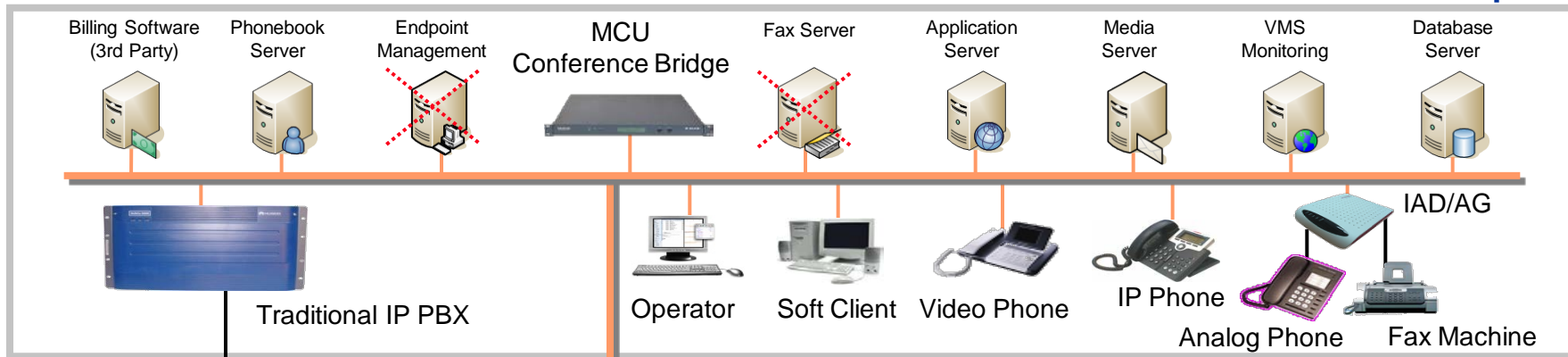
## UCM6100 series Deployment Case Study 3



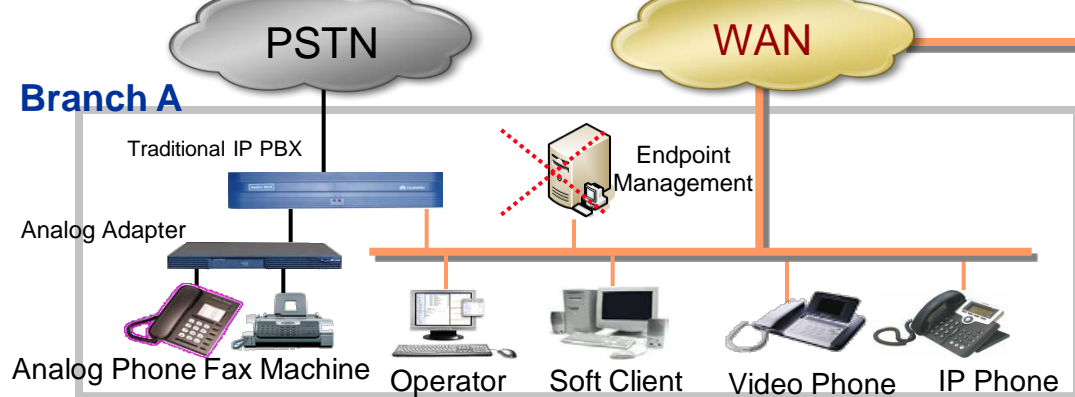
### Comparing Traditional IP PBX to UCM6100 PBX Solution

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## Headquarter



## Branch A

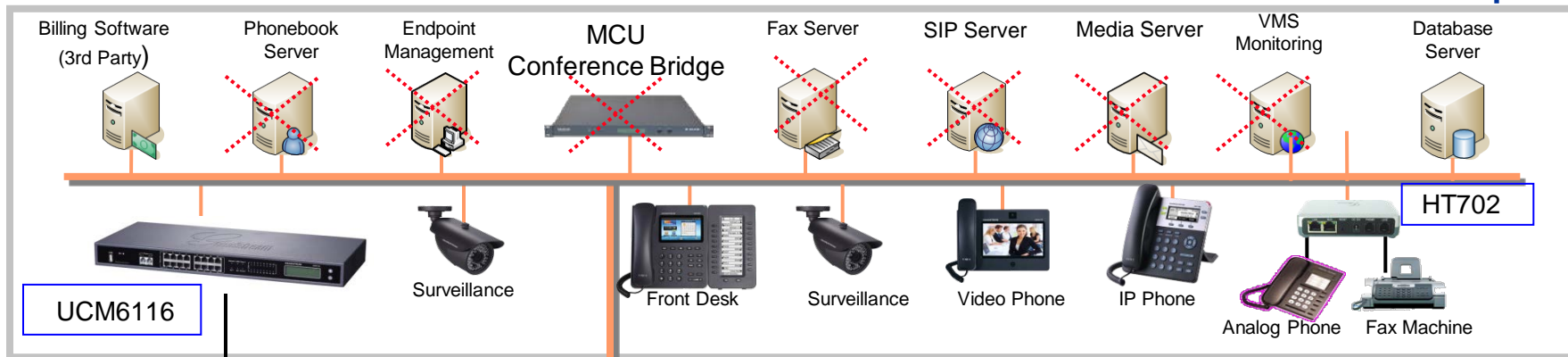


## Remote Office

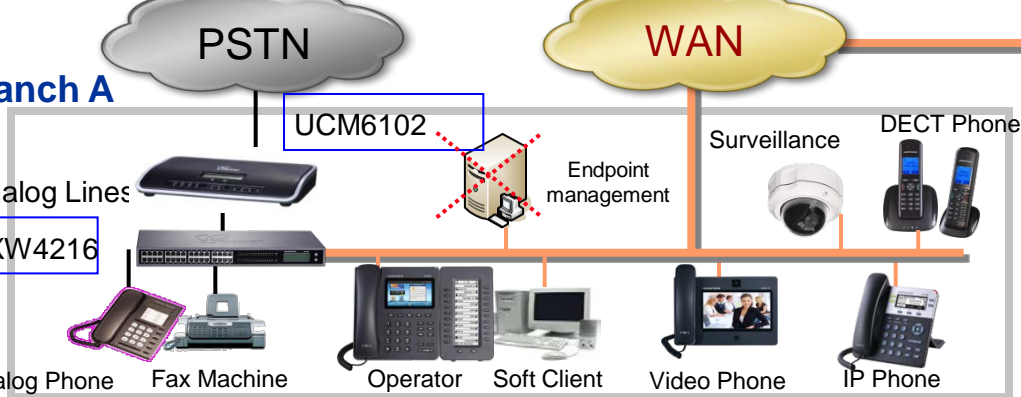




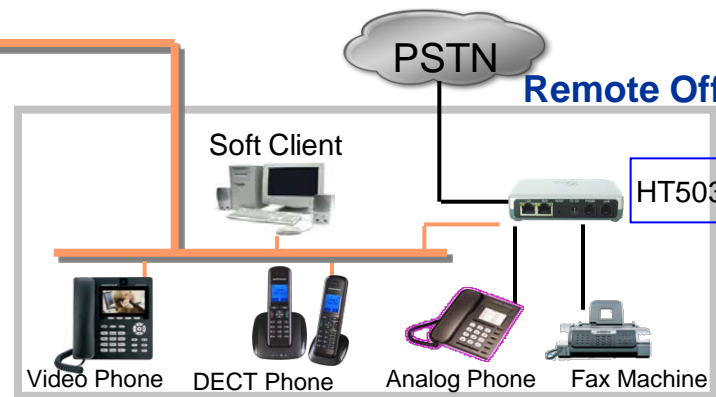
## Headquarter



## Branch A



## Remote Office



## **UCM6100 series Solution Advantages:**

Up to 500 SIP extensions (free).

Built-in applications: LDAP server, Fax server, Conference bridge.

Surveillance: VMS software Gsurf\_Pro can be used separately for video storage and monitoring.

**Thank You!**