# Yeastar P-Series PBX System Software Edition

Secure and adaptable Unified Communications for modern business

# Contents

# Product Overview

## Introduction

Supporting a maximum of 10,000 users and 1,000 concurrent calls, Yeastar P-Series Software Edition is a virtualized unified communication solution that reinvents how businesses connect with ultimate ease of use, flexibility, scalability, and security. As a "PLUS" solution, it brings professional voice, video, applications, collaboration, and more together as one, and lets you work everywhere and every way your business does.

## Feature and Benefits

**Yeastar P-Series Software Edition can help drive business growth and success by providing the following benefits:**

✓ **Virtualization**

Yeastar P-Series Software Edition combines all communication stacks in one single virtualized server. Users can enjoy flexibility to deploy system on any VMware or HyperV compatible virtual machine, local data center, or cloud environment,which helps businesses reduce the budgets on initial setup and ongoing maintenance, save IT resources (both manpower and time), while gaining security and scalability at the same time.

✓ **Security**

Yeastar P-Series Software Edition provides robust security mechanisms to ensure highest level of the service. The built-in security features protect the confidentiality and integrity of data, safeguard conversations, and prevent unauthorized access.

✓ **Reliability**

Yeastar P-Series Software Edition keeps the system up and running with minimal downtime, ensuring a peace of mind with enterprise-grade components, continuous upgrade, and high availability solution of PBX Hot Standby.

✓ **Flexibility**

It's easy to scaling up and down the system capacity. IT staffs can adjust the system resources (CPU, RAM, storage) onthe-fly, quickly scale up the capacity, and update the services to support business growth.

✓ **Mobility**

Yeastar P-Series Software Edition removes the restrictions of a traditional desk phone. Users access their office extensions from any computer or mobile devices to call, conference, and chat from anywhere.

✓ **Compatibility**

Yeastar P-Series Software Edition features excellent interoperability with third-party devices and applications, allowing business to effectively leverage their existing resources and unleash the true power of unified communications.

✓ **All-inclusive Features**

From the must-have to the nice-to-have, Yeastar P-Series Software Edition includes every feature that an enterprise may ask for: presence, IVR, DID, call forwarding, call recording, call logs, individual/group voicemail, conference, to name but a few.
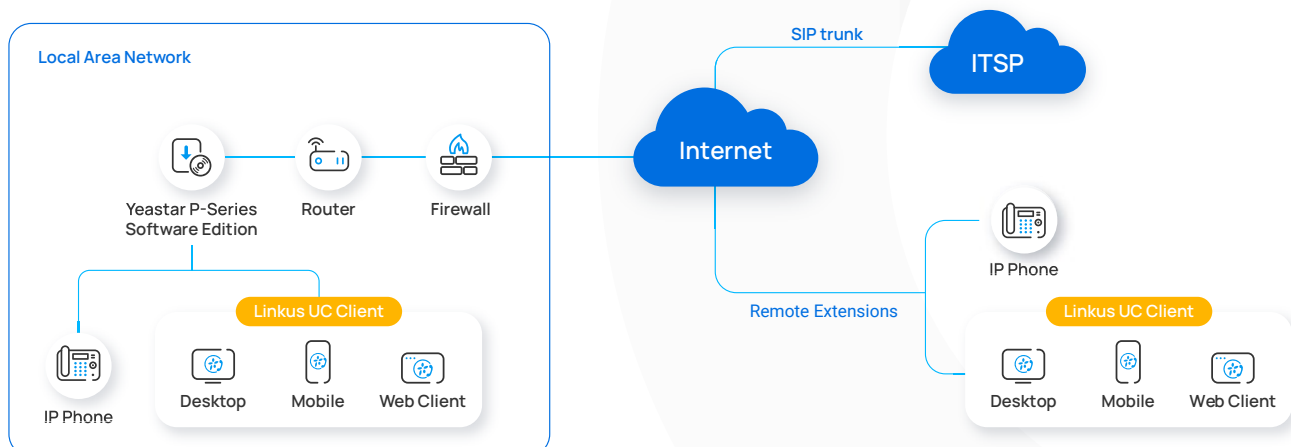
## Application Scenario

Yeastar P-Series Software Edition can be deployed in the local network. The deployment doesn't require a lot of wiring in the business premise. IP phones and other physical SIP terminals can be connected to the PBX through a computer network port. And softphones can be registered to the PBX via SIP protocol and function as endpoints for the telephone system. In this way, extension users can enjoy seamless communication services.

For communications over the public network, Yeastar P-Series Software Edition allows users to directly set up remote extensions and implement voice and other unified communication services over the Internet. In addition to the PSTN/ISDN phone lines, users can also set up SIP trunks to connect with an Internet Telephony Service Provider (ITSP) to extend Voice over Internet Protocol (VoIP) telephony.

The remote connection to the PBX can be established via Public IP address/Domain and ports, or via the Yeastar Remote Access Service (RAS) or Yeastar Remote SIP Service (RSS). The RAS and RSS are turnkey remote working solutions purposely built for P-Series PBX users to quickly establish an encrypted remote SIP connection to the PBX, eliminating the need of public IP address and port forwarding.

The network infrastructure of Yeastar P-Series Software Edition is shown as below.

**Local Area Network**

Yeastar P-Series Software Edition — Router — Firewall

Linkus UC Client

IP Phone | Desktop | Mobile | Web Client

SIP trunk — ITSP

Internet

Remote Extensions

IP Phone

Linkus UC Client

Desktop | Mobile | Web Client

# Deployment Environment

Yeastar offers flexible deployment options. Businesses need to evaluate their resources and business demands to plan and prepare the required deployment environment

- **Virtual server** including VMware, Microsoft Hyper-V, and KVM
- **Cloud-based server** including Amazon AWS
- **Hardware server** including Dell EMC PowerEdge R240/R340/R750 Server

The following tables list the environments and server requirements for the PBX system deployment.

| Virtual & Cloud Environment Requirements | | | | | | |
|---|---|---|---|---|---|---|
| | 0-75 CC | 76-125 CC | 126-250 CC | 251-500 CC | 501-750 CC | 751-1000 CC |
| vCPU | 4 | 6 | 8 | 16 | 48 | 64 |
| CPU Frequency | 2.4 GHz | 2.4 GHz | 3.0 GHz | 3.0 GHz | 3.2 GHz | 3.2 GHz |
| Memory | 4 GB | 6 GB | 16 GB | 16 GB | 32 GB | 32 GB |
| Storage (Call Recording Disabled | 50 GB | 100 GB | 200 GB | 300 GB | 500 GB | 500 GB |
| Storage (Call Recording Enabled | Recommended: 1 TB<br>**Note:** The capacity requirement depends on the total recording volume, 1 GB of storage holds approximately 1000 minutes of recorded calls. | | | | | |

| Hardware Server Requirements | | |
|---|---|---|
| | 0-250 CC | 251-500 CC | 501-1000 CC |
| Recommended servers | Dell EMC PowerEdge R340 | Dell EMC PowerEdge R340 | Dell EMC PowerEdge R750 |
| CPU | • CPU: Intel(R) Xeon(R) E-2244G<br>• CPU Frequency: 3.80 GHz<br>• CPU Count: 1<br>• Cores: 4<br>• Threads: 8 | • CPU: Intel(R) Xeon(R) E-2386G<br>• CPU Frequency: 3.50 GHz<br>• CPU Count: 1<br>• Cores: 6<br>• Threads: 12 | • CPU: Intel(R) Xeon(R) Gold 6346<br>• CPU Frequency: 3.10 GHz<br>• CPU Count: 2<br>• Cores: 16<br>• Threads: 32 |
| Memory | 16 GB | 16 GB | 32 GB |
| Hard Disk | 1T | 1T | 1T |

Note: The 0-250 CC and 251-500 CC columns both list Recommended servers Dell EMC PowerEdge R340.

For the server requirements for PBX of more than 1000 concurrent calls, please contact Yeastar for more details.

# Security

## Balance security and performance across your system

Yeastar P-Series Software Edition leverages multi-layer of defense to ensure the highest levels of user protection and system security. Security-specific features are provided at every level, covering various aspects of the system, including the firewall, user data, web access, remote SIP access, and more.

### Firewall Security

Yeastar P-Series Software Edition provides built-in firewall to establish a barrier between the internal network and the external network. It monitors the system's incoming and outgoing traffic proactively and will automatically block suspicious traffic based on a set of pre-defined firewall rules, preventing the system from VoIP hacking and attacks.

- **Static Defense** controls the traffic sent to the PBX. Besides the default firewall rules, users can add dedicated defense rules to allow or restrict the access from specific IP addresses, domain names, or MAC addresses.

- **Auto Defense** prevents massive connection attempts,or brute force attacks, by identifying the attackers per second based on the packets sent within a specific time interval, and automatically blocking them.

- **IP Blocking** blocks untrusted IP addresses when the IP addresses have issued too many failed attempts.

### Remote Access Security

Yeastar P-Series Software Edition provides Remote Access Service (RAS) to quickly establish an private and secure remote connection to PBX. It allows remote workers to enjoy a consistent in-office unified communications experience anywhere while without sacrificing the system security

- **Eliminate port-forwarding security risk**

  Communications are conducted in the encrypted secure tunnel provided by the RAS. IT teams do not need to open ports on the router, which eliminates the risk of exposing the device's ports to the public network.

- **Provide end-to-end encrypted communication**

  RAS provides end-to-end encryption for data transmission. Only parties involved in a conversation can decrypt messages sent between one-another.No other party, including Yeastar, can access the encrypted conversation, which effectively prevents the traffic from eavesdropping.

## Data Security

Yeastar P-Series Software Edition applies encryption with strong cipher algorithms to the usage data, from personally identifiable information to actual phone calls.

- **Sensitive information:** sensitive user data and critical information assets, such as user account, user password, registration password, and instant message texts, are encrypted using a combination of symmetric and asymmetric algorithms.

- **Call-signaling:** in a voice traffic, the call signaling is encrypted with Session Initiation Protocol (SIP) over Transport Layer Security (TLS).

- **Media-stream:** in a voice traffic, the media stream is encrypted with advanced protocols such as SRTP, which provides encryption and message authentication to the communication traffic.

## Web Access Security

Access control is a fundamental component of security that dictates who is allowed to access and use the system information and resources. Yeastar P-Series Software Edition implements strict web access control, which helps minimize the risk of attacks and misuse from unauthorized individuals and hackers.

- **Strong password policy:** the PBX system applies strong password policy. Users need to set passwords with a combination of uppercase letters, lowercase letters, and numbers.

- **Secure web access:** the PBX system supports HTTPS protocol of web access, which means the integrity and confidentiality of data are guaranteed via SSL protocol.

- **Automatic IP blocking:** the PBX system will automatically block IP addresses that fail multiple login attempts.

- **Role-based access:** system super administrator can grant access based on defined business functions, providing users with access only to data that is deemed necessary for their roles within the organization.

- **Automatic logout:** the PBX system will logout automatically after the period of inactivity, protecting the system and data from unauthorized access.

## PBX Service Security

Yeastar P-Series Software Edition enforces security on PBX services. The service-specific security mechanisms include but is not limited to the followings:

- **Secure service protocols:** the PBX system provides various services that use different secure protocols to ensure the privacy and integrity of information, including SSL/TLS, HTTPS, SRTP, LDAPS, and so on.

- **Toll fraud prevention:** the PBX system allows enterprises to set up outbound call restrictions to guard against potential toll fraud exploitation by unauthorized users.

  - Outbound call frequency restriction limits how many outbound calls a user can make within specified time period.

  - International call restriction restricts users from making international calls.

# Reliability

## Guaranteed system performance and service availability

High system reliability ensures that the PBX system can perform its core functions without service disruptions or significant reduction in performance. Yeastar P-Series Software Edition provides approaches of system monitoring, data backup, and disaster recovery to ensure maximized system uptime and a certain level of operational performance in case of unexpected failures.

### 24/7 system monitoring

Yeastar P-Series Software Edition provides monitoring and logging to provide full visibility into what is happening in the system.

– System conditions, such as processor and memory usages of server, the number of active calls, registered phones and available trunks, are monitored and displayed in real-time on a dashboard.

– Alerts will be sent to the notification contacts in real time when a failure is detected.

– Operation logs and system logs that contain information about system activities help organization operators to quickly troubleshoot and address failures.

### Data backup

Yeastar P-Series Software Edition provides data backup and restore features, which helps businesses to achieve the followings:

– Regular and scheduled backups to protect data

– Quick restoration and recovery in case of accidental deletion, database corruption or problems caused by a firmware upgrade.

– Easy data migration from one PBX to another
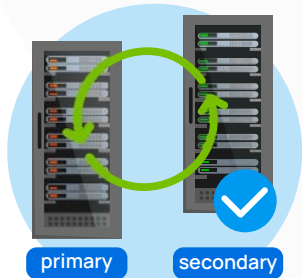
### Disaster Recovery

Yeastar P-Series Software Edition implements a failover mechanism to quickly detect system failure and recover the system service, thus provides high availability system performance and guarantees the customer experience. Two identical PBX servers can be set up as a failover pair to achieve the followings:

– Real-time data synchronization between the failover pair

– Automatic takeover from the crashed system to the stand-by system

– Automatic notifications to the notification contacts about the system crash

# Flexibility

## Enable modernized and future-proof services

The way people work is constantly changing. Businesses today are looking for a phone system that is highly adaptable to the changing environment and can grow with their business. Yeastar P-Series Software Edition provides the flexibility to adjust system resources on the fly, delivering a solution that is highly scalable and adaptable to your success.

### Flexible Deployment Options

Enterprises can make choice according to their needs to deploy the P-Series Software Edition on suitable platforms, such as virtual server, cloud-based server, or hardware server.

### Scalable Services

The accessibility to the latest features and ever-evolving Unified Communication technology is imperative for businesses to maintain a competitive edge. Yeastar P-Series Software Edition offers flexible license options with different scope of functionalities and evolving resources. Business can choose the level of functionality their teams require, easily scale up extension users, and upgrade their feature/ service plans at anytime.

### Multi-location Connectivity

With the growth of business scale, enterprises tend to set up branch offices on multiple sites. Yeastar P-Series Software Edition supports remote extension registration. Users can set up remote extensions on IP phones or softphones, reducing the need of additional equipment at the remote or branch offices.

Moreover, the PBX can be interconnected with remote VoIP gateways or branch office PBXs through the method of SIP trunking. By such, calls between offices are regarded as internal calls and completely free, thus greatly reduce the phone bills.

# Unified Communications Functionality

## A Full Unified Communications Suite

In response to the increasing demand on remote working and rapid changing of digital collaboration, Yeastar P-Series Software Edition delivers a complete unified communications suite.

With purposely-built Linkus UC Clients (mobile and web app) to work with the PBX system, employees can get their office vibes with them, no matter they are at home, office, and elsewhere. They can access the full communications and collaboration tools right from a web browser or mobile phone, empowering non-stop productivity.
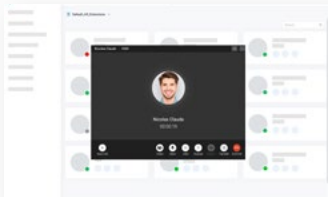
### Web Audio/Video Call

Instead of installing a softphone on a mobile phone or desktop, now employees can make and receive calls with high definition directly through a web browser. This feature provides great convenience for employees by achieving the followings:

- Place calls with one click, either audio or video
- Seamless switch between video and audio call
- Initiate a new call while putting the current one on hold

### Video Conferencing

Enterprises need face-to-face conversations to bring teams and customers closer together regardless of their locations. YeastarPSeries Software Edition gives a simple yet effective integrated video conferencing solution to easily conduct multi-party virtual meetings.

- Initiate and participate meetings right from a browser
- Generate meeting links to invite colleagues and customers
- Hear and see other participants in full HD
- Share the screen for live presentation
- Group chat and file sharing in the sidebar
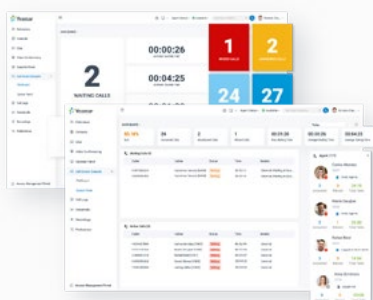
## Call Center

Yeastar P-Series Software Edition provides an economical call center solution that includes all the essential features—ACD queuing and distribution, IVR, visual call management, call recording & monitoring,real-time wallboards, reports, and more—to power customer service sophistication, operational efficiency, and help businesses impress their customers, empower their agents, and elevate their business.

- Sophisticated call distribution strategies to reduce customer wait time and drive faster call resolution
- Agent and supervisor portals to intuitively monitor activities in real time
- Instant and up-to-the-minute performance snapshot for in-depth call center monitoring, management and optimization
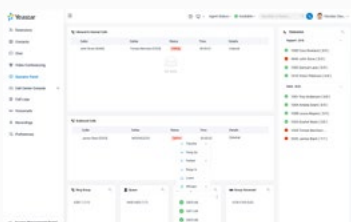
## Operator Panel

With Operator Panel, receptionists can get a holistic view of the call activities within the organization, and achieve drag-and-drop call management on a web browser.

- Visualized call traffic with comprehensive call information, including caller ID, call route, source route, waiting time, etc.
- Drag & drop to dispatch incoming calls (redirect, transfer, hangup,park, etc.)
- Monitor call status (inbound, outbound, extension, parked calls, etc.)
- Manage employees' presence status

# Ecosystem Integration

## Proven interoperability and seamless integration

Yeastar P-Series Software Edition works perfectly with your office infrastructure and IT services, whether it's IP phones, SIP trunks, CRM, and etc. Aiming to provide effortless integration and interoperability, the PBX adopts open approaches to help you tap into the VoIP ecosystem and take advantage of the fully integrated system and uninterrupted business communications.

By now, Yeastar P-Series Software Edition supports the integration with the following services and applications, and there will be more in the future.
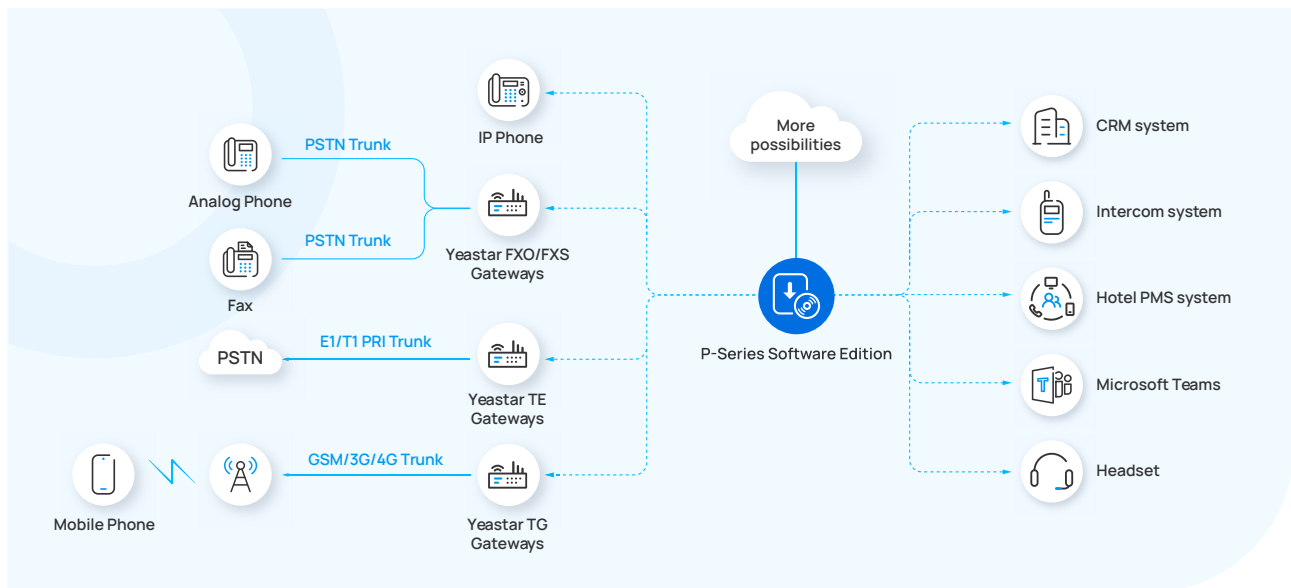


### ✓ CRM System

The PBX system is CRM-friendly and supports integration with popular CRM solutions to help enterprises boost office productivity by achieving exceptional performance on tracking business interactions with customers.

### ✓ Headset

The PBX system can integrate with portable headsets to allow users to control calls right on the headsets and enjoy superior call quality with simple operations on the headsets

### ✓ Intercom Devices

The PBX system can integrate with IP voice/ video intercom devices to achieve remote intercom and secure public access control.

### ✓ IP Phone

The PBX system supports IP Phone Auto Provisioning feature for mainstream IP Phone brands in the market, including Yealink, Fanvil, Cisco, Snom, Poly, Gigaset, Grandstream, Htek, and more.

### ✓ Collaboration Tool

The PBX system can integrate with Microsoft Teams to enable enterprise voice to Teams users. The integration helps Team users to work as regular PBX extensions and enjoy advanced telephony features such as IVR, call forwarding, conferencing, etc.

### ✓ Hotel PMS System

The PBX system can integrate with Hotel PMS or PMS middleware, achieving optimized performance of hotel services by providing better internal, guest-to-front desk communications, etc.

### ✓ Gateway

The PBX system can integrate with Yeastar VoIP gateways to extend physical trunks, including PSTN trunk, GSM trunk, and E1/T1/PRI trunk.

# Featured Solutions

Yeastar offers a wealth of solutions tailored for specific business needs. These solutions have achieved exceptional results and helped thousands of organizations deliver high quality services .

## Remote Working

### Challenge

It's how people work now: at home, on the go, and in the workplace. Always-on remote connectivity and instant secure access now become crucial to bring dispersed teams together. The employee productivity and system security are on the top of concerns for businesses adopting remote or hybrid working model.

### Solution

Yeastar P-Series Software Edition provides Remote Access Service (RAS) for businesses to set their teams up for anywhere-anytime productivity instantly and securely. It meshes together a set of seamless components to provide consistent in-office unified communications experience anywhere, on any device.
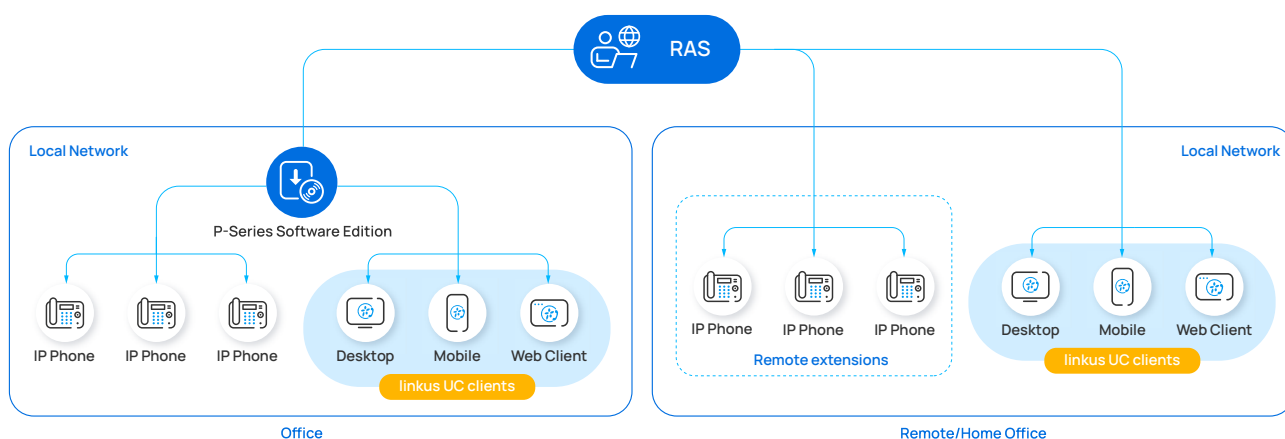


## Solution Benefits:

### Easy & Quick Configuration

There is no complicated network configurations.Users only need to set up the Yeastar-supplied FQDN to achieve hassle-free remote connection. It's only clicks away on the PBX management interface, easy even for a novice.

### Secure Communication

Rest assured with secure end-to-end remote communication encryption. The remote connection is established through an encrypted private tunnel, preventing data from being read or secretly modified. Only the data sender and recipient(s) can read the messages.

### Improved work efficiency

With Yeastar Linkus UC Clients, no business call will be missed, and the work keeps moving forward with rich collaboration features like Contacts, Video Conferencing, Instant Messaging, File Sharing, CRM Integration, etc.

### Eliminated Restriction of Distance

Linkus Web Client provides video calls, which allows face-to-face conversations that can eliminate the sense of distance, bring teams and customers closer. This helps to foster a sense of trust and build stronger business relationships.
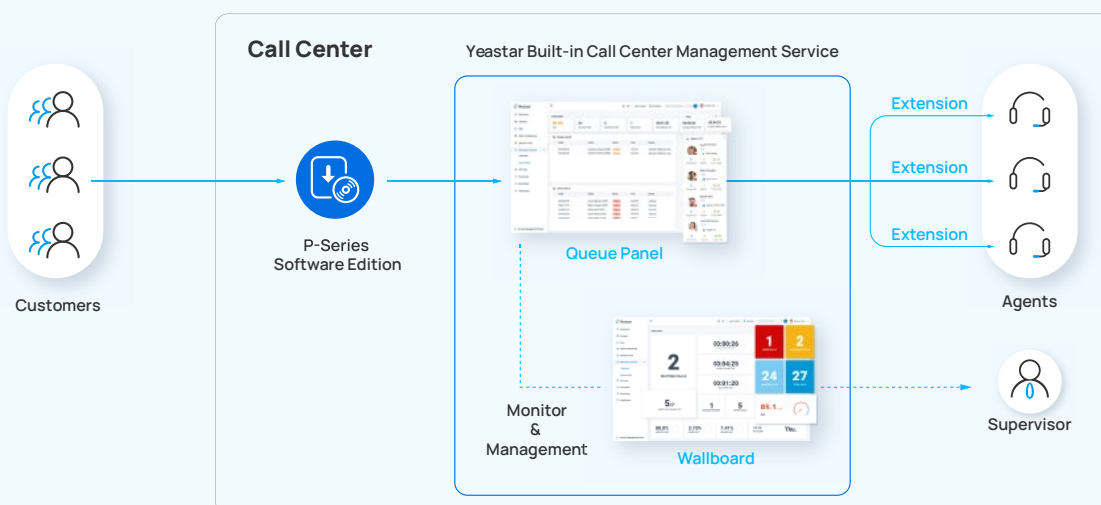
# Call Center

## Challenge

Faced with increased competition, squeezed budgets, and high customer expectations for service and support, modern businesses need an all-in-one call center solution that can help them achieve efficiencies with a higher degree of functionalities, while still being easy to use and maintain.

## Solution

Yeastar P-Series Software Edition offers built-in call center management, which provides the best-in-class automatic routing, effective agent tools, together with the superior built-in phone system and Unified Communications and Collaboration (UC&C) functions.



## Solution Benefits:

### High System Stability

All-in-one communication server with built-in powerful firewall guarantees the stable operation of the call center system.

### Comprehensive Call Center Features

Built-in sophisticated call routing strategies, queue panel, wallboard, SLA, queue call back, customer satisfaction survey, call center reports, and more.

### Improved Work Efficiency

Provide agents with automated call distribution of incoming calls, call pop-up screen, click-to-dial, customer management, call quality control and other functions to help agents improve work efficiency and service quality.

### In-depth Management

Supervisor can see up-to-the-minute call center metrics from the central call center Wallboard. All data are auto-calculated in real-time,daily, weekly, or monthly interval for in-depth call center monitoring, management, and optimization.
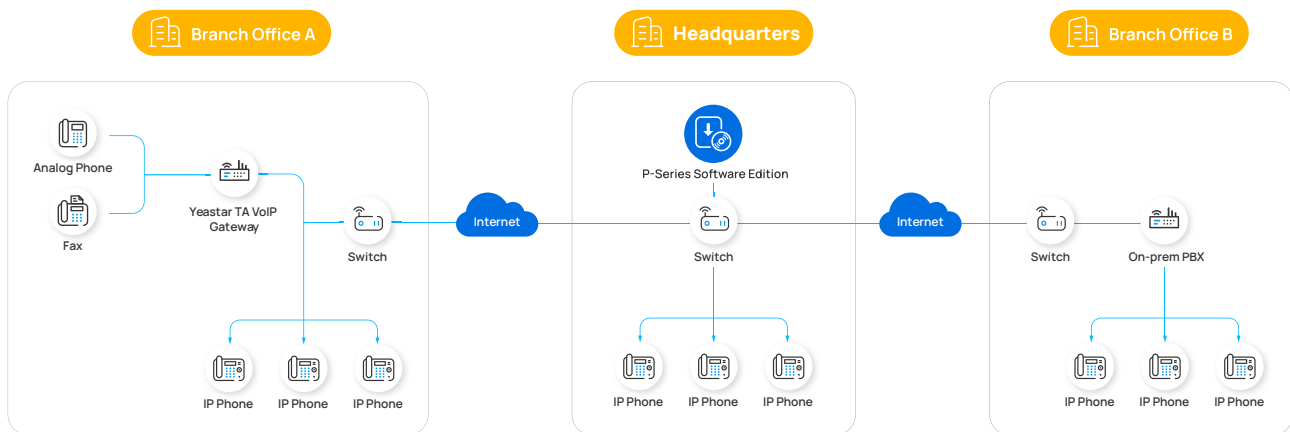
## 🔵 Branch Office

### Challenge

For multi-site businesses today, having a high-quality branch office VoIP network and choosing the services that come with it has never been more important. It's imperative that all remote sites, branches, and mobile workers can effectively communicate, smoothly co-ordinate, and operate in tandem so as to achieve the highest efficiency

### Solution

Yeastar P-Series Software Edition supports multi-location connectivity by offering remote extensions and SIP trunking. Enterprises can connect and set up intercommunication between the SIP devices in different offices, thus enjoy free calls and seamless inter-office collaboration.

**Branch Office A** — Analog Phone, Fax, Yeastar TA VoIP Gateway, Switch, Internet, IP Phone, IP Phone, IP Phone

**Headquarters** — P-Series Software Edition, Switch, IP Phone, IP Phone, IP Phone

**Branch Office B** — Switch, On-prem PBX, IP Phone, IP Phone, IP Phone

## 🔵 Solution Benefits:

### 🔵 One System for Multiple Locations

Serve all the locations via the internet. The cutting-edge PBX remote working solution extends full suite of central phone system and UC features to multiple sites seamlessly.

### 🔵 Slashed Communications Costs

Link multiple systems from both the headquarters and branch offices to make inter-branch calling free-of-charge and reduce outbound call costs by sharing trunks among offices to extend the available resources across multiple locations.

### 🔵 Network Existing Infrastructure

The Yeastar P-Series Software Edition together with VoIP gateways can interconnect the existing analog/IP infrastructures (PBXs, handsets, and phone lines, etc.) across multiple locations, so enterprises can best leverage their existing devices, providing the branches with an appearance of corporate unity.

### 🔵 Seamless Inter-office Collaboration

Connect employees at different locations with advanced features such as direct extension-dialing, video conferencing, presence, instant messaging and many more to make the team members communicate and work as if they were in the same office.
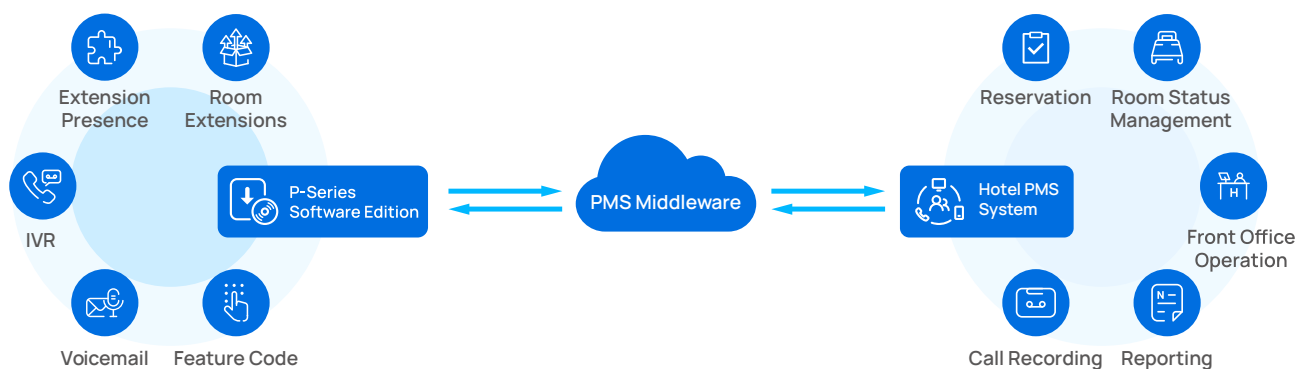
# Hotel Phone System

## Challenge

Intense competition in hotel industry drives hoteliers to pursue the high efficiency of communications and information management systems. To achieve quicker response and higher quality of service, integrating IP communications is an indispensable aspect. Hotels want an IP communication system that can provide voice and video communications as well as customer services while at reasonable expense.

## Solution

Yeastar P-Series Software Edition provides a Hotel PMS integration solution via the PMS middleware. The solution combines the IP communication and hotel features, helping hotels to provide higher quality of customer services.

Extension Presence    Room Extensions

IVR    P-Series Software Edition    ⇄    PMS Middleware    ⇄    Hotel PMS System

Voicemail    Feature Code

Reservation    Room Status Management

Front Office Operation

Call Recording    Reporting

# Solution Benefits:

## Improved Customer Satisfaction

The solution provides multiple services to improve the customer experience:

- Receive voice messages so that voice booking information won't be missed.
- Easy and quick check in/out on the hotel phone system without long wait.
- Set Do-Not-Disturb on the hotel phone system to give the customer quiet and relaxing nights without annoying incoming calls.
- Hotel employees can check the room's status and supply services in time.
- Hotel guests can dial the feature code on their room phones to set wake-up calls themselves.

## Enhanced Work Efficiency

Streamline operations of the receptionists at the front desk like entering guest information to assist guests to check-in/out and manage room status via room phone conveniently. Various operations can be performed by the reception staff directly within the PMS, which can effectively unleash man power.

## Easy data synchronization

The Integration can keep call records from all the hotel rooms as well as the staff communications,and transfer the data to your PMS for processing.

# IP Intercom System

## Challenge

For large organizations like school, apartments, and government operations, security is undoubtedly of great importance.Remote entrance monitoring and control, as well as in-time emergency notification, are fundamental. Therefore,organizations are looking for a system that can provide the ability to make calls, track calls, make system-wide announcements, as well as implement remote access control and intercom endpoints management.

## Solution

Yeastar P-Series Software Edition provides a solution by integrating with an IP intercom system. IP intercom devices are registered to the PBX, so they can communicate as PBX extensions. Enterprises can therefore get an IP paging and intercom system to provide timely communications in daily operations, and respond quickly in any given situation.
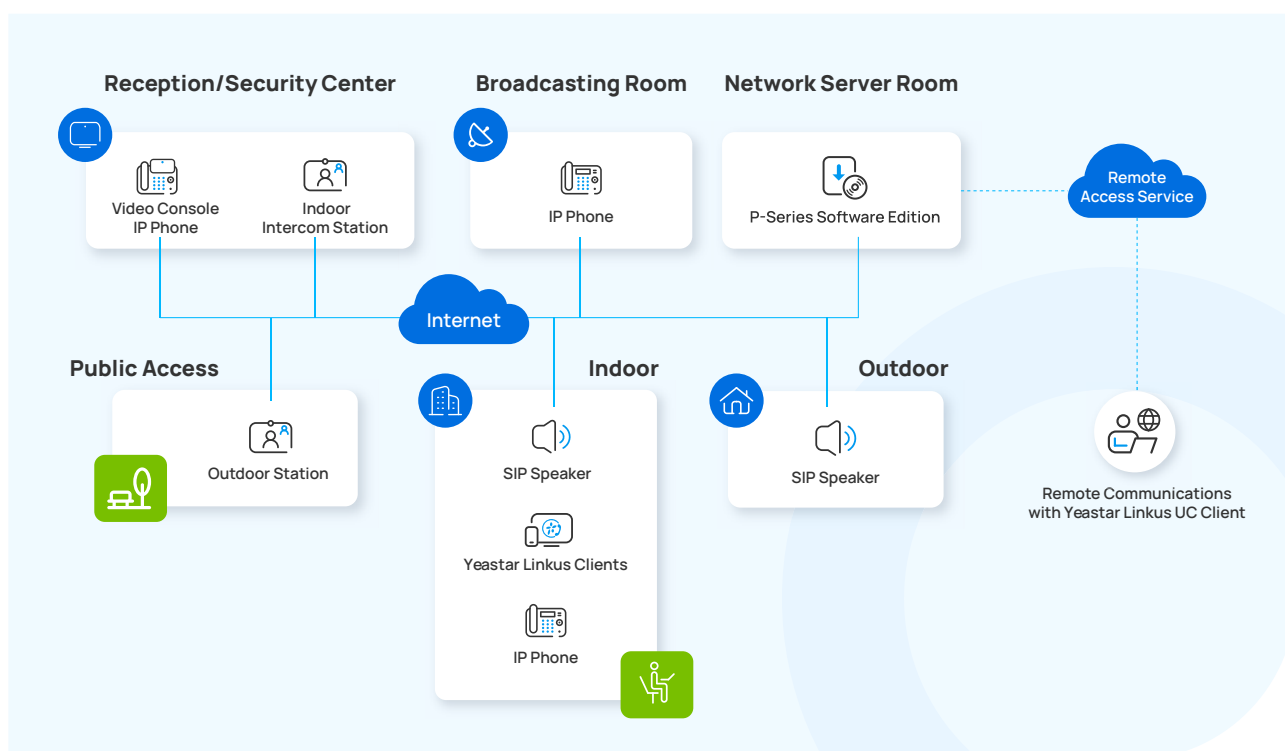


# Solution Benefits:

## Security Access Control

- Two-way voice communication between visitor and receptionist
- See who is at front door and converse easily via Yeastar Linkus Web Client or IP video phone.
- Flexible and remote public access control through various endpoints.
- •Auto-forward door phone calls to employee's mobile number or Linkus Mobile Client when not answered.
- •Screen visitors at entrances, car parks, security barriers, etc.

## PBX Built-in Paging

- Save costs with PBX built-in paging feature.
- Robust ad-hoc/scheduled paging for efficient routine notifications.
- Easy broadcasting from any devices available (IP phone or Mobile/PC with Linkus UC Clients).
- Robust permission control to limit who can broadcast pages and who can only receive them.

# About Yeastar

Yeastar helps businesses realize digital values by making communications and workplace solutions easily accessible from ownership and adoption to daily usage and management. Yeastar has established itself as a leading provider of UC solutions with a global partner network and over 350,000 customers worldwide. Committed to delivering the right technology to value-oriented businesses, Yeastar offers products and services for UC&C,workplace scheduling, and hybrid workplace to enable them to win in the modern digital world

## Recent Awards

| | | | |
|---|---|---|---|
| TMCnet Remote Work Pioneer Award 2022 | TMCnet Remote Work Pioneer Award 2021 | 2020 TMCnet Teleworking Solutions Excellence Award | Readers' Choice ICT Product of the Year 2021—PBX Systems for SMEs |
| Readers' Choice ICT Product of the Year 2021—PBX Systems for Large Companies | Readers' Choice ICT Product of the Year 2020—Phone Systems for Large Companies | Communications Solutions Product of the Year 2020 | Communications Solutions Product of the Year 2019 |
| Communications Solutions Product of the Year 2018 | Top Rated UCaaS Customer Satisfaction Award 2022 | CDSMA 2020 Vendor Marketing Team of the Year | CNA Best SME Telephony System 2020 |
| Hardware Vendor of the Year 2019 Shortlisted | Top 20 Most Promising Enterprise Communication Solution Providers 2018 | Top 10 Vendors of 2017 SME IPPBX Market (Global) | More |