FreePBX: Telephony Solutions for Hotels & Hospitality

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FreePBX in Hospitality Settings

FreePBX is a widely-used open-source GUI for managing Asterisk PBX systems, and it can be an excellent telephony platform for hotels and hospitality properties. Its flexibility and modular architecture allow hotels to implement standard PBX features (dial plans, extensions, voicemail, paging, etc.) alongside hotel-specific functions. Sangoma (the steward of FreePBX) even provides a ** Property Management** (SPM) module designed for hotels, which integrates tightly with FreePBX to manage rooms, check-in/out, wake-up calls, mini-bar billing, housekeeping and more (Source: freepbx.org)(Source: voipsupply.com). FreePBX/PBXact has thus become a viable alternative to traditional hotel PBXs, especially for small-to-mid-size hotels. In practice, integrators note that most hotel deployments use analog wiring (66-blocks) connected to multi-port FXS gateways (e.g.

Sangoma Vega 16-port analog gateways) to bridge room phones into the VoIP system (Source: community.freepbx.org)(Source: community.freepbx.org). These extensions usually serve for simple guest services (wake-up calls, messaging, internal calls) rather than high-volume external calling (Source: community.freepbx.org)(Source: community.freepbx.org). In sum, FreePBX is well-suited to hospitality: it supports any mix of analog and IP phones, can scale from tens to hundreds of rooms, and can be extended via commercial add-ons or third-party modules for hotel workflows.

Installation and Hardware/Software Requirements

Hardware: For small hotels or mid-size properties, FreePBX can run on modest hardware or virtual machines. In fact, one community report notes that *"a VM with a single core and 1 GB of RAM will run 100+ extensions and 20 simultaneous calls easily"* (Source: community.freepbx.org). In practice, a production hotel should use a more powerful server (multi-core CPU, 4–8 GB RAM or more, and plenty of disk space) to ensure reliability, recording, and expansion headroom. For analog room wiring, one typically needs multi-port analog gateways or cards: e.g. 4–8×16-channel FXS gateways to connect 66-blocks for 76–100 rooms (Source: community.freepbx.org). VoIP phones for front-desk or back-office staff should be PoE-capable on the hotel's switch (with VLAN separation from guest data). Standard network gear (VLAN-enabled switches, QoS, VLANs for voice) is recommended. In general, Sangoma's turnkey appliances (PBXact or FreePBX systems) are often used in hotels, or one can install FreePBX on generic x86 servers or virtual machines running Linux.

Software: FreePBX is typically installed on Linux. Sangoma offers a FreePBX Distro (Linux + Asterisk + FreePBX all-in-one) which is the recommended starting point. The user can also install FreePBX on a Debian or CentOS host following official instructions. For best support, use FreePBX 15+ on a supported distro. Additional software includes Asterisk (the telephony engine), plus any required drivers for analog cards (e.g. DAHDI) or gateways. Hardware requirements vary by size: for example, Sangoma notes that 4 GB RAM is ample unless you store years of call recordings. It's prudent to allocate extra disk space for call detail records (CDRs), voicemail, and backups.

Initial Setup: The installation is done via an ISO or scripts. After OS install, run the FreePBX setup script, then access the web GUI. You must configure basic settings: networking (static IP for the PBX), NAT/firewall, and then create ** SIP trunks** or carriers for external calling. Many hotels use SIP trunks (VoIP providers) or analog/PRI lines for PSTN access. FreePBX's initial setup wizard can help define NAT and firewall zones (the "Internet", "Trusted LAN" networks) for security. At a minimum, secure the admin interface (strong password, consider moving to HTTPS), and set up the Fail2Ban intrusion detection.

Extension Configuration (Rooms, Reception, Back Office)

Room Extensions: Typically, each guest room gets one extension. A common approach is to number extensions to match room numbers (e.g. extension 101 for Room 101), which simplifies management. These can be implemented as:

- **Analog room phones:** Connect the hotel's 66-block wiring to an FXS gateway or card. Each analog port (via a Sangoma Vega gateway or Digium card) becomes a FreePBX extension. For example, a 16-port FXS gateway can serve 16 rooms. As one installer noted, *"FXS systems at hotels never use more than 16 lines on a 66 Block... I have to use 16 port FXS gateways for this"* (Source: community.freepbx.org).

- **IP room phones:** In new-build or renovated hotels, you can install PoE SIP phones in rooms. Phones like the Yealink W56H (wireless) or Cisco/Polycom SIP models can register to FreePBX. Provisioning can be done via HTTP(S)/TFTP (with credentials) and usually phones get a profile pointing to the FreePBX server. The FreePBX "Extension" module is used to create each SIP extension (assign a name/number, secret, mailbox, etc.).

Each room extension is given appropriate settings: a voicemail mailbox (if guest messaging is offered), and optionally features like DND or do-not-disturb keys on the phone. By default, extensions can call each other. To enforce hotel policies, one might restrict extension-to-extension calls (see below). Usually, a catch-all rule is: dial *0* (or *9*) to reach the front desk operator.

Front Desk and Back-Office: Reception, lobby, restaurant, accounting, and maintenance offices each get their own extension. These should be IP/SIP phones (multiline handset) or softphones. Often a **ring group** or **queue** is set up for the front-desk, so inbound calls (from guests or outside) can ring multiple devices (e.g. reception and lobby phones). Staff phones can have BLF (busy lamp) keys to monitor key extensions (desk, accounting, etc.). A call-flow might route all inbound trunk calls to reception (via an Inbound Route) and include a voicemail fallback after hours. Depending on size, one might allocate internal DID numbers to departments (e.g. 600 for Room Service, 601 for Maintenance).

Room-to-Room Dialing: By default, FreePBX allows direct extension dialing (any ext can call any other ext). Hotels often want to restrict guests from calling other rooms. This can be done in the dialplan. For example, one can place guest extensions into a custom context (in `extensions_custom.conf`) that only allows dialing certain numbers (like "0" for operator) and blocks other patterns. As one administrator demonstrated, a context `[from-room-phone]` was

created that only permits dialing the operator and plays a “no service” message for all other digits (Source: community.freepbx.org). In practice, you might set guest extensions to a new user context and define exactly which extensions or prefixes they can reach.

Do Not Disturb (DND): Each extension can enable DND mode (often via the phone’s DND button or by dialing a feature code). When DND is on, the phone will not ring, and callers typically hear busy. Front-desk or operator phones can be configured to monitor DND status via BLF: many IP phones light the BLF red/green when DND is active. Some hotels program an LED or screen prompt to alert staff if any DND is active.

Voicemail: If you offer in-room voicemail (e.g. guests can be left messages by staff, or guests can leave a message for the next shift), enable voicemail for each extension. You can set each extension to ring the phone then go to that extension’s mailbox. In a clean setup, configure one Voicemail account per room or per extension. During check-out or housekeeping, you may manually clear the mailbox. (In an integrated PMS setup, voicemail deletion can be automated on check-out via a middleware integration.) FreePBX allows recording of voicemails, voicemail-to-email, or PIN-protected playback. For hospitality, you might configure the mailbox so housekeeping or night audit can use a common PIN to clear messages.

Call Accounting: Tracking outbound calls per room is often desired (especially in older models where guests were charged for calls). FreePBX logs all CDRs (Call Detail Records) for calls. By default, you can generate simple reports under *Reports → CDR Reports*. For more advanced billing, FreePBX offers a **Call Accounting** commercial module. This module lets you assign call costs to trunks, users or groups and upload rate tables to compute charges (Source: freepbx.org)also%20included). Hotels can use this to calculate guests’ call charges. (Alternatively, one can export CDRs or use third-party software like Asternic CDR Reports to generate per-extension billing summaries.) In many modern hotels, however, external calling is restricted (often to save cost) or bundled into the room rate, so elaborate billing is optional.

PMS Integration (FIAS, Middleware, UCP Modules)

Property Management System (PMS) integration is a key differentiator in hotel telephony. A PMS (such as Opera/Fidelio, Maestro, or in-house systems) tracks guest status and room charges; integrating it with the phone system automates many tasks. The standard protocol for many PMS is **Oracle’s FIAS** (Fidelio Hotel Interface). FIAS messages (over TCP/IP) can convey events like guest check-in, check-out, room moves, housekeeping updates, billing postings, etc.

Available Solutions: FreePBX itself does not natively include PMS integration beyond basic logging, but several solutions exist:

- **Sangoma Property Manager (SPM) Module:** FreePBX (and PBXact) offer the **Sangoma Property Management** commercial module. SPM provides a hotel dashboard in the User Control Panel (UCP) and handles reservations, check-in/out, wake-up calls, minibar charges, billing, and reporting (Source: freepbx.org)(Source: voipsupply.com). For up to 10 rooms, SPM is free; above that a yearly license is required. Staff can use SPM's UCP interface to mark rooms clean/dirty, schedule wake-ups, and manage accounts. Guests themselves can use a guest UI (via phone or app) to request wakeups or view charges. SPM is ideal if no external PMS is in place (it can function as a light PMS). For hotels using Oracle PMS (Opera/Fidelio), Sangoma offers an **Oracle Connector** add-on that links SPM to Opera (Source: voipsupply.com)(Source: sangoma.com).

- **Third-Party Modules (BrainBox, P$X, etc.):** Companies like GrayMatter Networks have created FreePBX modules for hospitality. For example, the **BrainBox** module adds full hotel features: it automates check-in/check-out, housekeeping status, and call-posting to the PMS; it includes an advanced wake-up call system (VIP wakeups, snooze, voicemail bypass) and flexible call accounting (bill per-call or per-minute) (Source: community.freepbx.org)(Source: community.freepbx.org). BrainBox also provides "room management" fallback (staff can manually set room status if PMS is offline) and logs staff actions (Source: community.freepbx.org). Another solution is P$X (PBillX), a middleware product acquired by Xorcom, which interfaces Asterisk/FreePBX with Opera/PMS via FIAS. (Xorcom's CompletePBX and Sangoma PBXact now include this PMS interface). These modules listen for PMS events and then issue Asterisk commands (via AMI or Manager) to set extension states: e.g. on *Check-In*, the guest's room extension is taken off barring and given call privileges; on *Check-Out*, external calling is disabled and unpaid charges are sent back to PMS for billing (Source: blog.astiostech.com).

- **Custom Scripts/Middleware:** In simpler cases, installers sometimes write scripts that poll the PMS database or listen to FIAS and then run Asterisk CLI commands. For example, on guest check-out a script could dial into Asterisk to clear voicemail and set "user-callerid" restrictions. However, building and maintaining custom code can be complex and error-prone.

Common Integrated Features: When a PMS and PBX talk, they can automate many hotel workflows:

- *Check-In / Check-Out:* The PMS tells the PBX when a guest checks in or out. On check-in, the PBX can enable the room extension (take it off call-barring), reset call counters, and allow wake-up scheduling. On check-out, it can disable outbound calls (barring external toll), delete voicemail, and signal housekeeping.

- *Wake-Up Calls:* Guests can schedule wake-up calls via the PMS interface, which then programs them in the PBX. Likewise, a guest dialing for a wake-up can write back to the PMS. Wake-up events are usually logged and can trigger alerts on failure (Source: community.freepbx.org).

- *Room Status (Housekeeping):* Housekeeping staff can use their phones or phone portal to mark rooms "Clean", "Dirty", "Maintenance", etc. These statuses are sent to the PMS. For example, dialing a short code from the phone might set the room state.

- *Minibar and Amenities:* Charges for minibar items or paid services ordered by phone can be automatically posted to the guest's room folio. The PBX or an IVR prompts the guest to confirm charges, then sends the code to PMS (Source: blog.astiostech.com).

- *Call Billing:* All guest calls (incoming and outgoing) can be tagged with the room number (via unique account codes or via the dial-peer). At check-out, the PBX can upload the room's CDRs to the PMS so that the guest is invoiced only for their calls (Source: blog.astiostech.com). BrainBox and other modules facilitate this by posting call data in real time or at intervals.

- *VIP/DND Override:* Some PMS integration supports marking VIP guests. For example, a VIP's outgoing calls might show an alternate caller-ID, and other phones may bypass their DND to reach them if needed (Source: blog.astiostech.com).

- *Notifications:* The integration can notify staff of events. For instance, some installations page the front desk when a room moves or when a wake-up call fails. (This often uses the PBX's paging or email features.)

All told, effective PMS integration turns the PBX into part of the hotel's operations center. Without PMS, features like wake-ups and call billing require manual steps; with integration, they become automatic.

Hotel-Specific Telephony Features

Several specialized features are common in hotels. Many can be implemented directly in FreePBX (sometimes with additional modules):

- **Wake-Up Calls:** A standard "hotel wake-up call" feature lets guests schedule a call at a set time (often with a snooze option). FreePBX does not have a built-in wakeup scheduler by default, but there are solutions. For example, the community-developed *Hotel Wakeup* module (free) or commercial scripts allow users to dial a feature code (commonly `*68`) to set a wake-up for the next day (Source: nerdvittles.com). These systems typically call the guest's extension at the appointed time and can offer snooze. Sangoma's SPM and BrainBox modules include built-in wake-up scheduling (staff or guests set the wake-up in UCP), with logging and VIP handling (Source: community.freepbx.org). Implementers should ensure the PBX's timezone and clock are correct (or per-user) so wake-ups fire at the right local time (Source: community.freepbx.org).

- **Room-to-Room Calling:** By default, extensions can call each other. Some hotels want to disable room-to-room calls for privacy or to streamline service requests. This is accomplished via custom dialplan or Contexts as noted above. For example, you might create a "hotel" context so rooms can only dial certain prefixes (front desk, room service, local emergency numbers, etc.) and block internal extension dialing. One forum user demonstrated a dialplan that lets room phones call only a designated "operator" extension and plays a blockade message for any other number (Source: community.freepbx.org).

- **Do Not Disturb (DND):** Guests often use DND when sleeping or at a spa. FreePBX phones support DND on the device (softkey) or via `*78`/`*79` codes. It's useful to have operator phones monitor DND status: BLF (Busy Lamp Field) keys on front-desk phones can light to indicate an extension's DND. Some hotels also configure the phones so that an engaged 'DND' LED or message appears.

- **Voicemail (Guest Mailboxes):** FreePBX can provide each room with its own voicemail box. In practice, many hotels turn off external voicemail (so guests can't dial out for voicemail) but enable "internal mailbox" for staff messages. If enabled, staff can dial *98 and enter the room number to leave a message for a guest, which the guest can retrieve by dialing a code or pressing a soft key. Alternatively, guests may have a welcome message (via IVR) with an option to record a quick wake-up message themselves.

- **Call Accounting/Billing:** Hotels sometimes bill guests for calls. FreePBX's **CDR Reports** can generate per-extension call logs. For formal billing, the Call Accounting commercial module lets you define rate tables and apply call costs to each extension or user (Source: freepbx.org). Other add-ons like **Asternic CDR Reports** (open-source) can provide detailed usage reports. In an integrated setup, call records are often sent to the PMS so that guests' folios reflect call charges automatically (Source: blog.astiostech.com).

- **Paging/Announcements:** Paging is widely used in hotels (e.g. “wake-up calls” via overhead speakers, general announcements, or paging to a particular area). FreePBX’s built-in **Paging and Intercom** feature lets administrators define paging groups (sets of extensions or SIP devices) that can be called by dialing a feature code (e.g. *80) or by clicking a UCP button. For enhanced paging, the commercial **Page Pro** module ($95) allows linking an outbound route to a page group (so an external trigger can initiate a page), “valet-style” pages (immediately connecting with conversation after a beep), and playing recorded announcements before the page (Source: freepbx.org). Hotels often use SIP-compatible speakers or SIP telephones in hallways/amenities; Page Pro or standard paging can broadcast messages to them. For example, one could schedule a daily wake-up page to all rooms or emergency paging on a 911 event.

- **Door Phones/Intercom:** If the hotel has a gated entrance or concierge desk, SIP door intercoms (e.g. 2N, Akuvox) can be integrated. Typically you add the door phone as a SIP extension (or inbound route). Pressing the doorbell on the intercom dials a pre-set extension or ring group (such as front desk and concierge). FreePBX can then present options (e.g. press “9” to open door) or simply ring staff. Camera-equipped SIP door phones can also record snapshots. (While not specific to FreePBX, many examples online show setting a Hikvision or 2N door station to call a FreePBX extension.)

- **Concierge Services:** Concierge services (valet, taxi, tour desk) can be implemented as ring groups or call queues. Alternatively, one can build an IVR menu for hotel services (e.g. “Press 1 for housekeeping, 2 for front desk, 3 for local taxi”). Modern IP phones allow custom XML directories; hotels sometimes program a “guest services” directory into phones. In a SIP/cloud scenario, you could integrate third-party services (e.g. dial an external concierge line via a trunk with a single-digit code). FreePBX’s flexibility makes it easy to route or script these services.

Networking and Security

In a hotel environment, careful network and security planning is critical:

- **Network Segmentation:** Voice traffic should be on a separate VLAN from guest Internet and other data networks. This isolates VoIP from general traffic and allows QoS to prioritize voice packets. Typically, all PoE switches for phones and the PBX server are on the “voice” VLAN. The PBX itself should reside on a secure LAN (Trusted zone) and not be exposed to the public network. If remote provisioning or softphones are used, they should connect via VPN or a controlled NAT/PAT rule, not open ports to the Internet.

- **Firewall (Zone-Based):** FreePBX includes a "Firewall" module (fw_firewall) that by default denies all traffic except allowed networks (Source: freepbx.org). On initial setup, the wizard suggests setting your local LAN as "Trusted" and the Internet interface as "Internet". It's advisable to keep the firewall active. Only allow the necessary SIP/phone ports (e.g. UDP 5060, RTP ports) to/from known SIP providers or remote sites. Do **not** open the FreePBX GUI (http/https) to the Internet unless absolutely required.

- **Intrusion Detection (Fail2Ban):** FreePBX also provides a Fail2Ban-based Intrusion Detection under **System Admin → Intrusion Detection** (Source: freepbx.org). Enable this. It monitors login attempts (SSH, SIP, etc.) and automatically bans IPs with repeated failures. Ensure you have the recommended number of allowed retries (e.g. 5 tries) before ban, and configure email alerts if desired.

- **SIP Security:** In **Settings → Asterisk SIP Settings**, disable "Allow Anonymous Inbound SIP Calls" and "Allow SIP Guests" unless you have a need (most do not) (Source: freepbx.org). Requiring authentication by default means unknown hosts can't just send calls. Only trust SIP registrations from your known providers. If using SIP trunks, configure them with IP-based authentication or strong passwords, and restrict inbound SIP traffic (via your firewall) to those provider IPs (Source: community.freepbx.org). Consider using SIP TLS and SRTP encryption if your phones support it (Source: freepbx.org).

- **Access Controls:** Admin interfaces (FreePBX GUI, SSH, phone provisioning URLs) should be accessible only from trusted IPs. If remote management is needed, use a VPN or SSH port-knocking. Disable any built-in demo or default extensions. Change the default "admin" username to a custom name. Use strong, unique passwords for all extensions and for the `root` / `asterisk` users on the PBX. Remember to secure phone provisioning: phone config files contain credentials, so serve them only over HTTPS (not plain HTTP or TFTP) if possible (Source: freepbx.org).

- **Updates and Maintenance:** Keep FreePBX and the underlying OS up to date. Regularly run `fwconsole ma upgradeall` and update the Linux distro packages. Verify backups regularly. Store backups off-site or in the cloud (encrypted), as FreePBX warns that *"Backups should be stored securely"* (Source: freepbx.org). Implement monitoring/alerting: watch disk space, CPU load, call-quality metrics, and freePBX logs (`/var/log/asterisk/full`, `/var/log/asterisk/freepbx.log`). FreePBX's built-in *Backup & Restore* module can schedule periodic system backups (config and recordings).

- **911/Emergency Compliance:** U.S. hotels must comply with Kari's Law and Ray Baum's Act. Kari's Law requires any multi-line system to allow 911 dialing *without* any prefix (guests must dial 911 directly) and to send an alert to a central location (Source: community.freepbx.org). Ensure that your dial plan has an emergency route for 911 (no "9" or "0" required), and set up an *Emergency CID* or *Override CID* on the outbound route so that 911 calls have the proper location CID (and are not identified as from an internal extension). Also, configure an emergency notification: for example, FreePBX's Page Pro module can automatically page a security group or dial a front-desk group whenever 911 is dialed (Source: community.freepbx.org). Ray Baum's Act (Section 506) requires that a "dispatchable location" accompany a 911 call – typically the building address and floor/room. In practice, this means either programming your trunks so that the correct address is associated with the outbound CID or using an E911 service that maps your DID to the hotel's address (Source: docs.telosalliance.com). Check with your SIP provider about how to supply floor/room information. Finally, train staff: signage and quick-dial scripts should remind employees that no prefix is needed.

Example Configurations and Dial Plan

Here is a high-level example of how a small hotel might configure FreePBX extensions and call flow:

- **Extension Plan:** Assign rooms 101–120 to SIP Extensions 101–120. Set each extension to "Ring strategy: ringall", with voicemail enabled. Assign front desk to 500, manager to 510, housekeeping to 520.
- **Outbound Routes:** Create one "Toll" route that requires dialing 9 before outside call. Using SIP trunks restricted by provider IP. Create an "Emergency" route that matches exactly 911 with an Emergency CID (the hotel's main address) and an Emergency destination (a group paging setup).
- **Inbound Routes:** Direct the main public number (DID) to a ring group "FrontDesk-RG" (rings 500,511). After hours inbound goes to a different ring group or to voicemail.
- **Paging Groups:** Define a page group 800 that includes all room extensions and lobby speakers. Create an announce extension (801) for morning wakeup (plays a recording to 800 when dialed).
- **Feature Codes:** *68 (wake-up), *97 (voicemail check), *78/*79 (DND on/off), etc., as desired.

- **Custom Context:** In `/etc/asterisk/extensions_custom.conf`, define `[from-room]` so that extensions in context "from-room" can only dial *0 (to reach operator at ext 500) and block other inputs (using Playback(ss-noservice)). Then assign each room extension's "User Context" to "from-room".
- **Housekeeping Codes:** Define Misc Destination codes (e.g. 900="Mark Room Clean", 901="Mark Maintenance"). Associate these with custom extensions that trigger a script or dial an ADI hook to notify PMS.

These are illustrative; the actual configuration depends on the hotel's policies. The key is to align extensions and routes with the hotel's numbering plan and service flow.

Recommended Add-Ons and Modules

FreePBX's ecosystem includes several modules helpful to hotels:

- **Sangoma Property Management (SPM):** As mentioned, provides a hotel PMS UI integrated into UCP (Source: freepbx.org)(Source: voipsupply.com). Supports reservations, check-in/out, wakeups, minibar charges, billing reports, and housekeeping status. Free for ≤10 rooms, licensed beyond.
- **Hotel Wake Up (Free):** A community module for scheduling wake-up calls. (Not officially maintained, but available on GitHub). It adds a UI for guests or staff to set alarms.
- **Call Accounting:** (Commercial, $400/yr) For detailed billing by trunks/users (Source: freepbx.org).
- **Paging Pro:** (Commercial) Enhanced paging features (Source: freepbx.org).
- **BrainBox (GrayMatter):** Adds comprehensive hospitality features as described (Source: community.freepbx.org) (PMS integration, advanced wakeups, call billing, room status). Sold separately from FreePBX.
- **Page/Conference Modules:** The standard Paging and Intercom (free) plus optional conference modules can be used for announcements or town hall meetings.
- **FaxPro/CRM Plugins:** Some hotels integrate credit card authorization or booking systems; FreePBX has add-ons for hotel-style billing or CRM connectors if needed.

Ultimately, a deployment might use the built-in features plus a couple of commercial modules (e.g. PagePro and Call Accounting), along with the property management integration that best fits the existing PMS. Many integrators recommend the Sangoma SPM or BrainBox to handle hospitality logic within the PBX, otherwise the hotel may end up "recreating the wheel" by custom scripting (Source: community.freepbx.org).

Compliance and Emergency Services

As noted, U.S. regulations require proper emergency dialing and notification. Summarizing:

- **Kari's Law:** Guests must be able to dial 911 without any prefix. FreePBX should have an inbound route (or emergency dialplan) matching `^911$` that sends the call to trunks without requiring a 9. Also, the law requires *on-site notification* when 911 is dialed (not necessarily by voice). FreePBX's **Page Pro** or a custom script can automatically page or call a security group when a 911 call is made (Source: community.freepbx.org). Logging the call in a logbook is also good practice.

- **Ray Baum Act:** Emergency calls must include a "dispatchable location" (hotel address + room number). FreePBX itself doesn't generate dispatchable location, but you can ensure the outbound CID is the hotel's main number (so the PSAP sees the correct address from the provider's database). For precise room info, many hotels register rooms' extension numbers as "aliases" to a main location in the PSAP database (via their phone carrier). In practice, double-check with your SIP/analog provider: configure the trunks to send the correct E911 trunk ID. The PBX admin should input the facility address in the E911 settings, and update it if the hotel physical layout changes.

- **Minimum Requirements:** At minimum, ensure that 911 rings a live operator (or auto-attendant) and that location info is provided. One Reddit user succinctly warns: *"Tinkerbell is a myth, Ray Baum and Kari's Law are not."* (In other words, these are real legal obligations.)

Maintenance and Logging

Running a hotel PBX requires good maintenance practices:

- **Regular Updates:** Periodically run `fwconsole ma updateall && fwconsole reload`, and keep the Linux OS updated (via `yum` or `apt`). Test updates in a lab if possible. The FreePBX GUI also shows module update notifications.
- **Backups:** Configure *Backup & Restore* (Community or BackupPro) to take nightly backups of the config and Voicemail. Off-site storage (cloud or remote server) is recommended. FreePBX cautions that backups (which may include passwords and call recordings) be kept securely (Source: freepbx.org).
- **Monitoring:** Check `/var/log/asterisk/full` for call activity or errors. FreePBX's Dashboard (Status → Asterisk Info, System Status) can alert high load or low disk. Consider setting up external monitoring (Nagios, Zabbix) to ping the PBX and watch CPU.
- **Fail2Ban Logs:** Review intrusion logs (`/var/log/fail2ban.log`) to see if any IPs were banned. Adjust rules if legitimate traffic is being blocked.
- **CDR & Reports:** Periodically clear old CDRs if disk space is low, but archive before. Use CDR Reports or CSV exports to produce monthly usage summaries for accounting.
- **Extension Moves/Changes:** In hospitality, rooms may be renumbered or merged. Maintain an updated mapping of room to extension (and reflect that in the PBX). If using PMS integration, updating room assignments is usually done in the PMS (which then informs the PBX).
- **Staff Training:** Ensure hotel staff know basic PBX operations: how to answer and log calls, place wake-up calls, clear voicemails, and who to contact for telecom issues.

Real-World Examples

There are many anecdotal examples of FreePBX in hotel use:

- A **hotelier using Asterisk/PBXact** noted that modern guests rarely use room phones for outside calls; instead the hotel's IP phones are used for internal messaging and information display (Source: community.freepbx.org). This suggests focusing configuration on messaging (e.g. text on screen, paging) rather than toll calling.
- One integrator warned against a *cloud-only* PBX for hotels, noting *"if the hotel has an Internet issue, it renders all the phones in the hotel unusable… they won't even be able to call the front desk or have features like wake up calls working."* (Source: community.freepbx.org). This

underscores why on-prem FreePBX (with local SIP trunks and local voice paths) is generally preferred in hospitality for resilience.

- The Astiostech blog (2012) describes building a hotel PBX link with a Malaysian PMS via JDS middleware, accomplishing exactly the functions listed in the FIAS specification: automated check-in/out, wake-ups, minibar charge posting, etc. (Source: blog.astiostech.com). Although a demo, it shows that all needed features have been implemented with Asterisk/PBX in actual deployments.

- Vendors like Sangoma (SIPStation/FreePBX) and Xorcom actively promote hospitality solutions (e.g. CompletePBX Hotel Edition). Forums and case studies often mention small hotels using FreePBX with 40–60 rooms, leveraging Sangoma's SPM (or third-party modules) to meet their needs.

In summary, FreePBX can serve as a full-fledged hotel phone system when properly configured and extended. The key is to plan the dialplan and network for the hotel's operations, use the right hardware (gateways, phones, switches), and add the necessary software modules (paging, wake-up, PMS integration). With these in place, FreePBX can deliver features on par with commercial hospitality PBXs, often at a fraction of the cost.

Sources: Information synthesized from FreePBX documentation, community forums, and hospitality PBX case studies (Source: freepbx.org)(Source: community.freepbx.org) (Source: freepbx.org) (Source: community.freepbx.org) (Source: freepbx.org)(Source: voipsupply.com) (Source: freepbx.org)(Source: freepbx.org) (Source: blog.astiostech.com). Where available, official Sangoma/FreePBX datasheets and vendor blogs were cited for feature descriptions.

Tags: freepbx, asterisk, pbx, hotel telephony, hospitality, voip, sangoma, property management, fxs gateway, analog wiring

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About ClearlyIP

ClearlyIP Inc. — Company Profile (June 2025)

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1. Who they are

ClearlyIP is a privately-held unified-communications (UC) vendor headquartered in Appleton, Wisconsin, with additional offices in Canada and a globally distributed workforce. Founded in 2019 by veteran FreePBX/Asterisk contributors, the firm follows a "build-and-buy" growth strategy, combining in-house R&D with targeted acquisitions (e.g., the 2023 purchase of Voneto's EPlatform UCaaS). Its mission is to "design and develop the world's most respected VoIP brand" by delivering secure, modern, cloud-first communications that reduce cost and boost collaboration, while its vision focuses on unlocking the full potential of open-source VoIP for organisations of every size. The leadership team collectively brings more than 300 years of telecom experience.

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2. Product portfolio

- **Cloud Solutions** – Including *Clearly Cloud* (flagship UCaaS), **SIP Trunking**, **SendFax.to** cloud fax, **ClusterPBX OEM**, **Business Connect** managed cloud PBX, and **EPlatform** multitenant UCaaS. These provide fully hosted voice, video, chat and collaboration with 100+ features, per-seat licensing, geo-redundant PoPs, built-in call-recording and mobile/desktop apps.
- **On-Site Phone Systems** – Including CIP PBX appliances (FreePBX pre-installed), ClusterPBX Enterprise, and Business Connect (on-prem variant). These offer local survivability for compliance-sensitive sites; appliances start at 25 extensions and scale into HA clusters.
- **IP Phones & Softphones** – Including CIP SIP Desk-phone Series (CIP-25x/27x/28x), fully white-label branding kit, and *Clearly Anywhere* softphone (iOS, Android, desktop). Features zero-touch provisioning via Cloud Device Manager or FreePBX "Clearly Devices" module; Opus, HD-voice, BLF-rich colour LCDs.
- **VoIP Gateways** – Including Analog FXS/FXO models, VoIP Fail-Over Gateway, POTS Replacement (for copper sun-set), and 2-port T1/E1 digital gateway. These bridge legacy endpoints or PSTN circuits to SIP; fail-over models keep 911 active during WAN outages.
- **Emergency Alert Systems** – Including **CodeX** room-status dashboard, **Panic Button**, and **Silent Intercom**. This K-12-focused mass-notification suite integrates with CIP PBX or third-party FreePBX for Alyssa's-Law compliance.
- **Hospitality** – Including **ComXchange** PBX plus PMS integrations, hardware & software assurance plans. Replaces aging Mitel/NEC hotel PBXs; supports guest-room phones, 911 localisation, check-in/out APIs.
- **Device & System Management** – Including **Cloud Device Manager** and **Update Control (Mirror)**. Provides multi-vendor auto-provisioning, firmware management, and secure FreePBX mirror updates.
- **XCast Suite** – Including Hosted PBX, SIP trunking, carrier/call-centre solutions, SOHO plans, and XCL mobile app. Delivers value-oriented, high-volume VoIP from ClearlyIP's carrier network.

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3. Services

- **Telecom Consulting & Custom Development** – FreePBX/Asterisk architecture reviews, mergers & acquisitions diligence, bespoke application builds and Tier-3 support.
- **Regulatory Compliance** – E911 planning plus **Kari's Law**, **Ray Baum's Act** and **Alyssa's Law** solutions; automated dispatchable location tagging.
- **STIR/SHAKEN Certificate Management** – Signing services for Originating Service Providers, helping customers combat robocalling and maintain full attestation.
- **Attestation Lookup Tool** – Free web utility to identify a telephone number's service-provider code and SHAKEN attestation rating.
- **FreePBX® Training** – Three-day administrator boot camps (remote or on-site) covering installation, security hardening and troubleshooting.
- **Partner & OEM Programs** – Wholesale SIP trunk bundles, white-label device programs, and ClusterPBX OEM licensing.

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4. Executive management (June 2025)

- **CEO & Co-Founder: Tony Lewis** – Former CEO of Schmooze Com (FreePBX sponsor); drives vision, acquisitions and channel network.
- **CFO & Co-Founder: Luke Duquaine** – Ex-Sangoma software engineer; oversees finance, international operations and supply-chain.
- **CTO & Co-Founder: Bryan Walters** – Long-time Asterisk contributor; leads product security and cloud architecture.
- **Chief Revenue Officer: Preston McNair** – 25+ years in channel development at Sangoma & Hargray; owns sales, marketing and partner success.
- **Chief Hospitality Strategist: Doug Schwartz** – Former 360 Networks CEO; guides hotel vertical strategy and PMS integrations.
- **Chief Business Development Officer: Bob Webb** – 30+ years telco experience (Nsight/Cellcom); cultivates ILEC/CLEC alliances for Clearly Cloud.
- **Chief Product Officer: Corey McFadden** – Founder of Voneto; architect of EPlatform UCaaS, now shapes ClearlyIP product roadmap.
- **VP Support Services: Lorne Gaetz** (appointed Jul 2024) – Former Sangoma FreePBX lead; builds 24×7 global support organisation.
- **VP Channel Sales: Tracy Liu** (appointed Jun 2024) – Channel-program veteran; expands MSP/VAR ecosystem worldwide.

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5. Differentiators

- **Open-Source DNA:** Deep roots in the FreePBX/Asterisk community allow rapid feature releases and robust interoperability.
- **White-Label Flexibility:** Brandable phones and ClusterPBX OEM let carriers and MSPs present a fully bespoke UCaaS stack.
- **End-to-End Stack:** From hardware endpoints to cloud, gateways and compliance services, ClearlyIP owns every layer, simplifying procurement and support.
- **Education & Safety Focus:** Panic Button, CodeX and e911 tool-sets position the firm strongly in K-12 and public-sector markets.

In summary

ClearlyIP delivers a comprehensive, modular UC ecosystem—cloud, on-prem and hybrid—backed by a management team with decades of open-source telephony pedigree. Its blend of carrier-grade infrastructure, white-label flexibility and vertical-specific solutions (hospitality, education, emergency-compliance) makes it a compelling option for ITSPs, MSPs and multi-site enterprises seeking modern, secure and cost-effective communications.
