Software Overview:

Flex-iPBX is a powerful and flexible open-source communication platform that serves as a graphical user interface (GUI) for the FreeSWITCH telephony engine. Designed for both small and large businesses, Flex-iPBX enables the management of Voice over IP (VoIP) services, providing a comprehensive suite of telephony features and functionalities.

Key Features:

1. **User-Friendly Interface:** Flex-iPBX offers an intuitive web-based interface that simplifies the management of telephony systems, making it accessible for users with varying technical expertise.
2. **Multi-Tenancy Support:** Ideal for service providers and enterprises, Flex-iPBX supports multiple tenants, allowing each tenant to have their own extensions, settings, and configurations without interfering with others.
3. **Robust Telephony Features:** Flex-iPBX includes a wide range of features, such as call routing, voicemail, call recording, conferencing, auto-attendants, and call queues, ensuring a fullfeatured communication experience.
4. **Integration Capabilities:** The platform supports integration with various applications, including Customer Relationship Management (CRM) systems, helpdesk software, and other third-party tools, enhancing business workflows and productivity.
5. **Advanced Security:** Flex-iPBX implements robust security measures, including fail2ban support, firewall configurations, and TLS/SRTP encryption, to protect communications from unauthorized access and threats.
6. **Flexible Deployment Options:** Flex-iPBX can be deployed on-premises or in cloud environments, providing businesses with the flexibility to choose a hosting solution that fits their needs.
7. **Scalability:** Built on the FreeSWITCH engine, Flex-iPBX can scale to accommodate growing businesses, supporting hundreds to thousands of users and concurrent calls.
8. **Comprehensive Monitoring and Reporting:** The system includes tools for real-time monitoring, call detail records (CDR), and performance analytics, allowing administrators to track system performance and user activity.
9. **Active Community and Support:** Flex-iPBX benefits from a vibrant open-source community, providing users with access to forums, documentation, and community-contributed resources for troubleshooting and best practices.

Flex-iPBX stands out as a versatile and cost-effective VoIP solution suitable for various applications, from small businesses to large call centers and service providers. With its rich feature set, strong security measures, and extensive integration capabilities, Flex-iPBX empowers organizations to streamline their communication processes and enhance overall operational efficiency.

Technical specification:

SL.	Nomenclatures	Specifications
1	Operating System	▪ Support Linux (Debian, Ubuntu)
2	Management System	▪ PostgreSQL ▪ Backup Management
3	Interface	▪ FreeSWITCH switching interface ▪ NGINX web interface ▪ Chrome for GUI management ▪ SSH Access
4	Server Hardware and Cloud Infrastructure	▪ Self Hosted (Physical or VM) ▪ Cloud Hosting
5	VoIP Protocols	▪ SIP (Session Initiation Protocol) ▪ IAX (Inter-Asterisk eXchange)
6	Codecs & Signaling	▪ Audio: G.711 (PCMU and PCMA), G.722, G.729, OPUS, iLBC, Speex, GSM, AMR ▪ Video: H.264, VP8, H.263, VP9 ▪ DTMF: RFC2833, SIP INFO, and In-band
7	Capacity	▪ Concurrent calls: 500-1000 (for 8C/16GB) ▪ Concurrent calls with media: 200-300 (for 8C/16GB) ▪ Extensions: Unlimited ▪ Conference Attendees: 200-500 (for 8C/16GB)
8	Modules/Functions	▪ Multi-Tenant PBX System ▪ Call Routing and Forwarding ▪ Interactive Voice Response (IVR) ▪ SIP Trunk, SIP Presence, BLF ▪ ACD (Automatic Call Distribution) ▪ Voicemail and Voicemail-to-Email ▪ Video Conference ▪ Ring Group ▪ FAX Server ▪ Follow Me ▪ Extension Management (remote and Mobile Support) ▪ Caller ID ▪ Call Queues, Call Forwarding, Call Transfer, Call Parking, Call Pickup, Call Barging, Call Recording, Call Broadcasting ▪ Call Detail Records (CDR) and Analytics

		- Least Cost Routing (LCR)
		- Security and Encryption
		- Customizable User Roles and Permissions
		- API and Integrations
		- High Availability (HA) and Failover
		- Music on Hold
		- Hot Desking
		- Call center features
		- SIP Trunking
		- Call Analytics and Monitoring
		- Auto-Provisioning
		- Video Call
9	Application	- WebRTC Clients
		- SIP Phones (hardware and software)
		- Mobile VoIP Applications
		- CRM Integrations (e.g., Salesforce, Zoho)
		- Helpdesk Software (e.g., Freshdesk, Zendesk)
		- Call Center Applications
		- Fax Solutions (e.g., HylaFAX, Fax2Email)
		- Presence Applications
		- Conference Solutions (e.g., Zoom, Jitsi)
		- VoIP Gateways
		- Call Recording Solutions
		- SMS Messaging Services
		- Reporting and Analytics Tools
		- Virtual Meeting Tools
		- Custom API Integrations
		- Third-party Call Management Systems
		- Email Integration (e.g., Voicemail to Email)
10	Networking And Firewall Tools	- NAT Configuration
		- STUN
		- TURN
		- Firewall Management
		- SIP Profiles
		- TLS/SRTP
		- QoS (Quality of Service)
		- Bandwidth Management
		- SIP Trunk Management
		- DNS SRV Support
		- RTCP
		- SIP Options Keepalive

		▪ Failover and Redundancy ▪ WebRTC Network Configurations ▪ Port Management ▪ SIP ALG Bypass ▪ VPN Integration
11	Backup And Monitoring Tools	▪ Backup & Restore ▪ Database Backup ▪ Auto-backup Scheduler ▪ External Storage Integration (e.g., FTP, S3) ▪ Call Detail Records (CDR) ▪ System Status Dashboard ▪ Real-time Call Monitoring ▪ Fail2Ban Monitoring ▪ SIP Debugging ▪ Log Viewer ▪ SNMP (Simple Network Management Protocol) Support ▪ Alerts and Notifications ▪ CPU/Memory Usage Monitoring ▪ Network Traffic Monitoring
12	Additional/ Optional tools	▪ HylaFAX (Fax Support) ▪ CRM (API Integration) ▪ WebRTC Support

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