



innovaphone
CONNECT 2026



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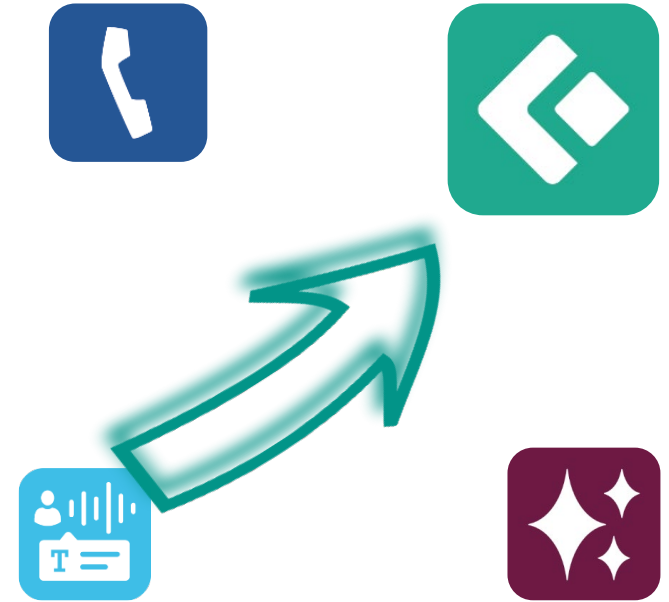
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Under the Hood: Technical Highlights from the innovaphone World



AI Integrations

- **Translations** (Translations of Texts)
 - Apps: Connect App, Projects App
 - Backend: DeepL API, *eTranslate (powered by EU)*, *Local LLM -coming soon-*
- **Assistant** (LLM Integration)
 - Apps: Assistant App, Connect App, Phone App/Softphone App
 - Backend: Connector for v1/chat/completions API
- **Transcriptions** (Converting Speech to Text)
 - Apps: Transcriptions App
 - Backend: Connector for v1/audio/transcriptions API
- **Conference Transcription** (Summaries of Audio Conferences)
 - Apps: Phone/Softphone App, Connect App
 - Backend: APIs to Transcriptions and Assistant





MQTT Broker



- The MQTT Broker App provides an MQTT message broker that complies with current standards
- It enables MQTT clients such as IoT devices, sensors, or custom applications to exchange messages using the publish/subscribe model
- MQTT clients use the standard MQTT protocol to connect to the broker via TCP (port 1883) or securely via TLS (port 8883).

The screenshot displays the MQTT Broker app interface with three main sections: Active Clients, Broker Info, and Messages.

Active Clients

| Client ID | LastSeen | Sent | Received | Action |
|----------------|-------------|------|----------|------------|
| buttons | 25 sec. ago | 0 | 3 | Disconnect |
| mqttx_79e76d9b | 6 sec. ago | 3 | 0 | Disconnect |

Broker Info

- Total Messages Sent: 3
- Total Messages Recv: 3
- Total Sessions: 25

Messages

| Client ID | Topic | Payload | Retained |
|------------------|---------|--------------------------|----------|
| mqttx_79e76d9... | connect | Welcome | no |
| mqttx_79e76d9... | connect | innovaphone connect 2026 | no |





MQTT Broker



- Bridge mode enables broker-to-broker connections
- It supports message restrictions based on **topics** or **clients** via the Access Control List (ACL).
- MQTTv5 and MQTTv3.1.1 are supported

The screenshot displays two side-by-side configuration panels for the MQTT Broker. The left panel, titled 'Basic Credentials', features an 'Add Credentials' button and a table with columns for Username, Password, and Actions. It lists two entries: 'Heating, 1st floor' and 'Heating, 2st floor', both with masked passwords and edit/delete icons. Below the table is a 'Broker Auth Type' dropdown set to 'None' and a 'Confirm' button. The right panel, titled 'Access Control List', has an 'Add ACL Rule' button and a table with columns for Client ID, Permission, Topic Filter, and Actions. It shows one entry for Client ID 'mqttx_79e76d9b' with 'Publish' permission and 'connect' topic filter. An 'Activate ACL' button is located at the bottom right of this panel.

| Username | Password | Actions |
|--------------------|----------|---------|
| Heating, 1st floor | ***** | |
| Heating, 2st floor | ***** | |

Broker Auth Type:

| Client ID | Permission | Topic Filter | Actions |
|----------------|------------|--------------|---------|
| mqttx_79e76d9b | Publish | connect | |





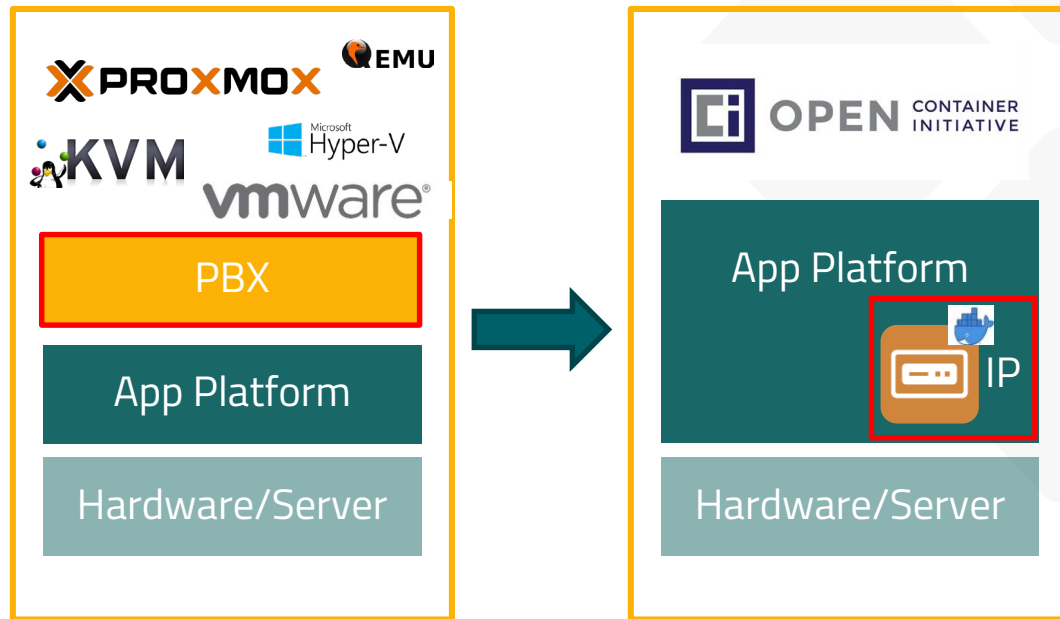
Reconnect Calls (Seamless Handover/Call Handover/Session Continuity/Auto Reconnect)

- **Reconnect Calls** provides uninterrupted phone connectivity even when the network conditions change
- The audio connection will automatically be re-established when:
 - the network changes at a country border or during GSM roaming handover.
 - you switch from Wi-Fi to 4G/5G or vice versa.
 - you are in an elevator or a parking garage without signal.
 - you disconnect the laptop from the Ethernet connection and switch to Wi-Fi or vice versa.
 - there are areas with poor reception, for example when driving through a tunnel.
 - the PBX reboots.
 - the PBX fails and the standby PBX takes over.



App Platform as a Docker Container and App IP

The **innovaphone App IP** brings full PBX functionality to the innovaphone App Platform as an app service. It can also run on an app platform as an OCI container.



App Platform Container

Host with Docker x86_64 (amd64) platform

There is a public registry:
registry.innovaphone.com

Please refer to the step-by-step Wiki article:
[Docker Compose Container Deployment](#)

App IP

Runs as an app on the innovaphone App Platform starting with image version 140011

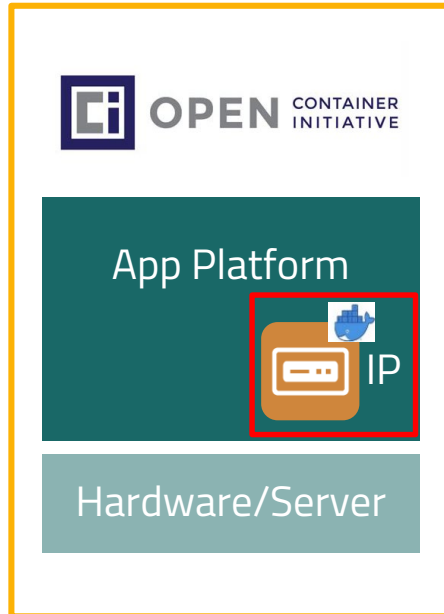
Licensing is similar to IPVA, but with own licenses, as it is a separate in-house development

One App IP instance per app platform





App IP Installation



Create an instance

We recommend following settings:

- Name = ip
- Domain = Customer domain (system name of the PBX)
- Password = The password must be set to “pwd” for the installation and will be changed during the process.

Start the installation

- The installation can be initiated under the web server path of the App IP instance followed by /install.htm, for example:
http://app.domain.com/domain.com/ip/install.htm
- Use standard ports for the installation. If necessary, install via Reverse Proxy.
- Do not use localhost or 127.0.0.1 address

Advanced UI

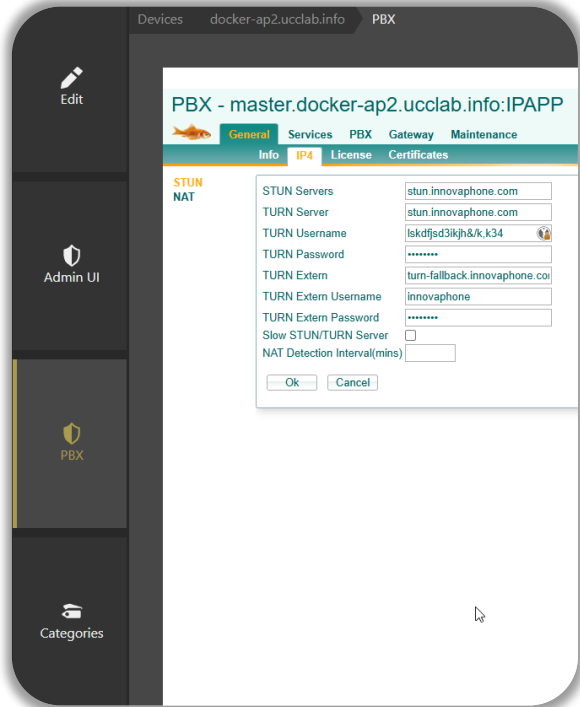
The Advanced UI can be accessed via the web server path of the App IP instance followed by /admin.xml?xsl=admin.xsl, for example:

https://app.domain.com/domain.com/ip/admin.xml?xsl=admin.xsl





App IP Troubleshooting



Devices App

If the App Platform running the App IP is connected to the Devices App, you can access the Advanced UI of the PBX via the additional PBX tab of the App Platform.

IP Configuration

Since the App IP is simply an app on an App Platform, it does not have IPv4/IPv6, NTP settings as other innovaphone devices do.

Troubleshooting

The App IP provides a standardized tracing mechanism for app services, as well as mechanisms familiar from innovaphone gateways. The trace files are not located under Maintenance / Tracing, but in the App IP Service of the App Platform.

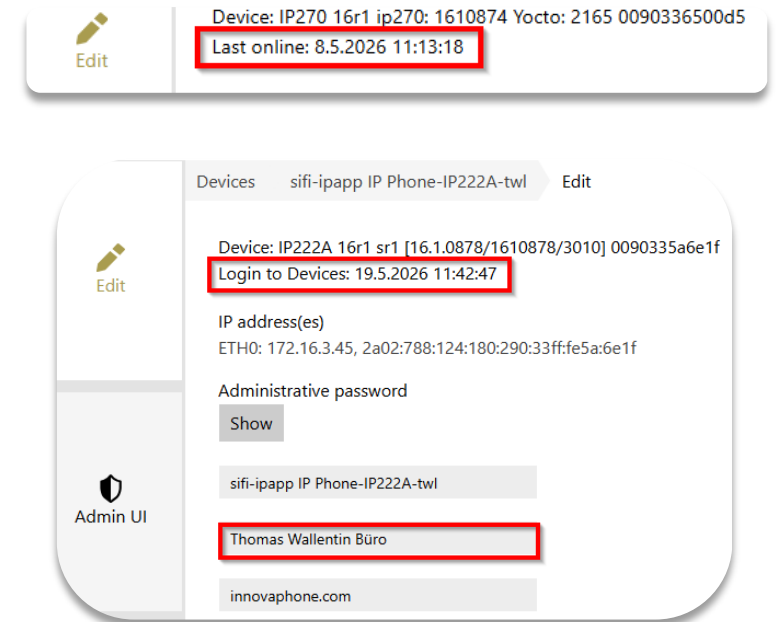




New Features in the Devices App

The **Devices App** offers several useful improvements that make device management much easier:

- The app now shows the last time a device was connected
- Individual device details for each device
- Parallel updates
 - Up to 20 parallel updates for the innovaphone store; otherwise a maximum of 500 parallel updates for a local resource

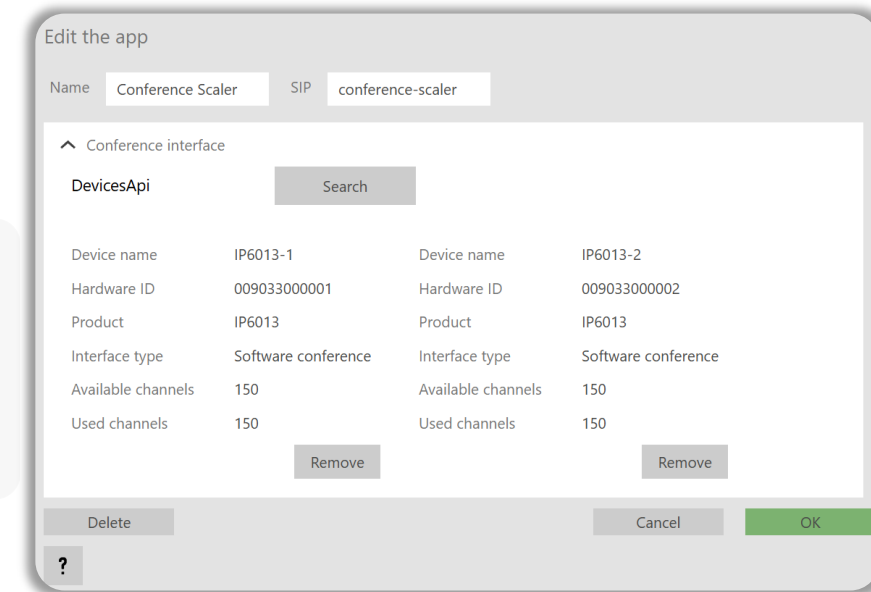




Conference Scaler App



- With the Conference Scaler multiple Softconference Interfaces can be clustered to increase the number of possible participants in a conference
- The Conference Scaler is responsible for orchestration and distribution of the participants in a round robin manner to the interfaces
- Cross-interface audio is transferred from the master-interface in a direct connection
- Cross-interface video is transferred via multicast addresses, therefore the interfaces must be inside the same LAN-Network
- Since video and audio may also be sent to other interfaces, you should factor in approximately 1.5 times the CPU load per participant. On an IP0013, 100 participants are possible without a scaler. With a scaler, this figure is 66 participants ($100 / 1.5 = 66$).





V16 – PBX Memory Optimizations

BUFFER ANALYSIS – ACTUAL vs. OPTIMIZED

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More efficient memory usage. Higher system performance.

| ACTUAL BUFFERS | | | | |
|----------------|--------|---------|--------|------------|
| POOL | SIZE | USED | FREE | BYTES |
| 0 | 32 | 108.443 | 12.367 | 6.765.360 |
| 1 | 64 | 19.095 | 2.640 | 1.912.680 |
| 2 | 128 | 3.197 | 22.368 | 3.885.880 |
| 3 | 256 | 4.392 | 1.119 | 1.543.080 |
| 4 | 512 | 1.099 | 251 | 723.600 |
| 5 | 1.024 | 432 | 263 | 728.360 |
| 6 | 2.048 | 431 | 506 | 1.941.464 |
| 7 | 4.096 | 111 | 7 | 486.160 |
| 8 | 8.192 | 111 | 2 | 928.408 |
| 9 | 16.384 | 9 | 2 | 180.488 |
| 10 | 32.768 | 0 | 2 | 65.584 |
| Σ TOTAL | | 137.320 | 39.527 | 19.161.064 |

TOTAL UTILIZATION **59,60 %**



| BUFFERS WITH OLD SIZES | | | | |
|------------------------|--------|---------|--------|------------|
| POOL | SIZE | USED | FREE | BYTES |
| 0 | 32 | | | |
| 1 | 64 | | | |
| 2 | 128 | 130.735 | 37.375 | 25.552.720 |
| 3 | 256 | 4.392 | 1.119 | 1.543.080 |
| 4 | 512 | 1.099 | 251 | 723.600 |
| 5 | 1.024 | 432 | 263 | 728.360 |
| 6 | 2.048 | 431 | 506 | 1.941.464 |
| 7 | 4.096 | 111 | 7 | 486.160 |
| 8 | 8.192 | 111 | 2 | 928.408 |
| 9 | 16.384 | 9 | 2 | 180.488 |
| 10 | 32.768 | 0 | 2 | 65.584 |
| Σ TOTAL | | 137.320 | 39.527 | 32.149.864 |

TOTAL UTILIZATION **100,00 %**

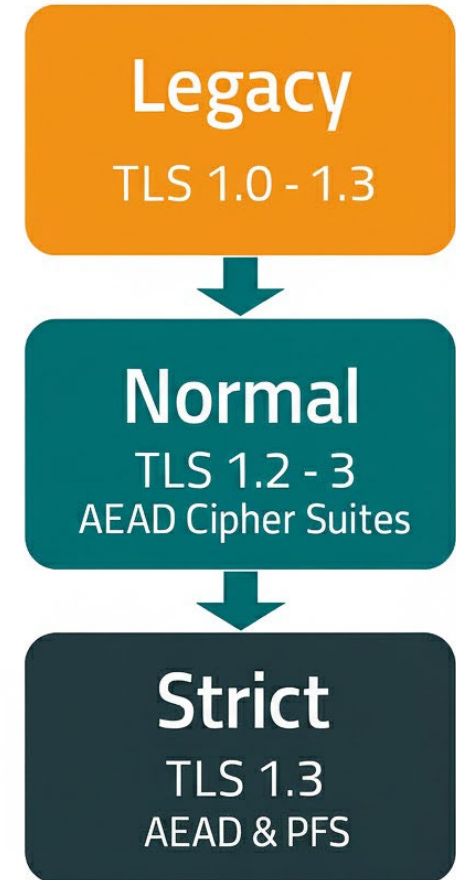


RESULT: OPTIMIZATION INCREASES TOTAL UTILIZATION BY **40,40 %**



New in V16 - TLS Profile v15 -> v16

- Mapping the new profiles:
 - TLS normal -> Profile normal
 - TLS experimental -> Profile normal
 - TLS high security -> Profile normal
 - TLS strict -> Profile strict
 - TLS fast -> Profile legacy
- DTLS 1.0 has been removed
- DHE cipher suites have been removed





TLS - Support for ECDSA Certificates

- ECDSA: Modern alternative to the RSA algorithm that offers better performance for current and future security requirements
Empfehlung: Upgrade auf 16r1 und Nutzung von secp256r1

| Security level | RSA key size | RSA performance | ECC curve | ECDSA performance | Status |
|----------------|-----------------|-----------------|------------------|-------------------|-------------------------|
| 80-bit | 1024-bit | Very fast | - | - | Deprecated |
| 112-bit | 2048-bit | Fast | - | - | Minimum |
| 128-bit | 3072-bit | Moderate | secp256r1 | Fast | Current standard |
| 192-bit | 7680-bit | Ultra slow | secp384r1 | Moderate | Long term |
| 256-bit | 15360-bit | Ultra slow | secp521r1 | Moderate | Ultra high security |





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Thank You!
Any Questions?



V16 – Optimizations

■ IP1202 Flash Optimization

- We increased the flash memory partition size for the IP1202 from 128 KB to 256 KB.

■ RTT Support

- The gateways support Real-Time Text. Emergency calls can be forwarded via voice and text to NGX-compatible emergency dispatch centers.

■ Email Authentication with OAuth2

■ Incremental LDAP Replication

- Reduces the startup and synchronization time of the PBXs.

■ LDAP Replicator Support for OpenLDAP

- When retrieving the RootDSE, the Active Directory replicator now recognizes OpenLDAP and uses the entryUUID attribute as the GUID for PBX users during user replication.

