VOICE

COMTEL



InForm voice

REDESIGN COMMUNICATIONS

InForm Voice, IFV, is the ultimate, open and flexible software engine offering any kind of organization the ideal stack to model their business communication tools around the operational business needs. IFV goes beyond UCC, pulling back voice in the heart of the communication with customers and partners, enhanced by the most advanced messaging, video, collaboration and AI enriched options. Designed for flexibility and maximum availability, IFV operates transparently in cloud, hybrid and on-prem environments, making communication tools available everywhere and on any device.

Thanks to its innovative concept, IFV offers employees the chance to operate effortlessly from any location ensuring high productivity levels along with the modern work styles (smart, remote, hybrid). The native service-oriented architecture (SOA) and the availability of open web services interfaces facilitate total integration in the business processes, easily managed by powerful system administration and monitoring tools.



CONNECT

InForm Voice enables instant connection across your organization. Using the integrated company directory and presence indicators, colleagues can see real-time availability and reach one another quickly whether inside the office or working remotely. Collaboration has never been faster, easier, or more connected.

COMMUNICATE

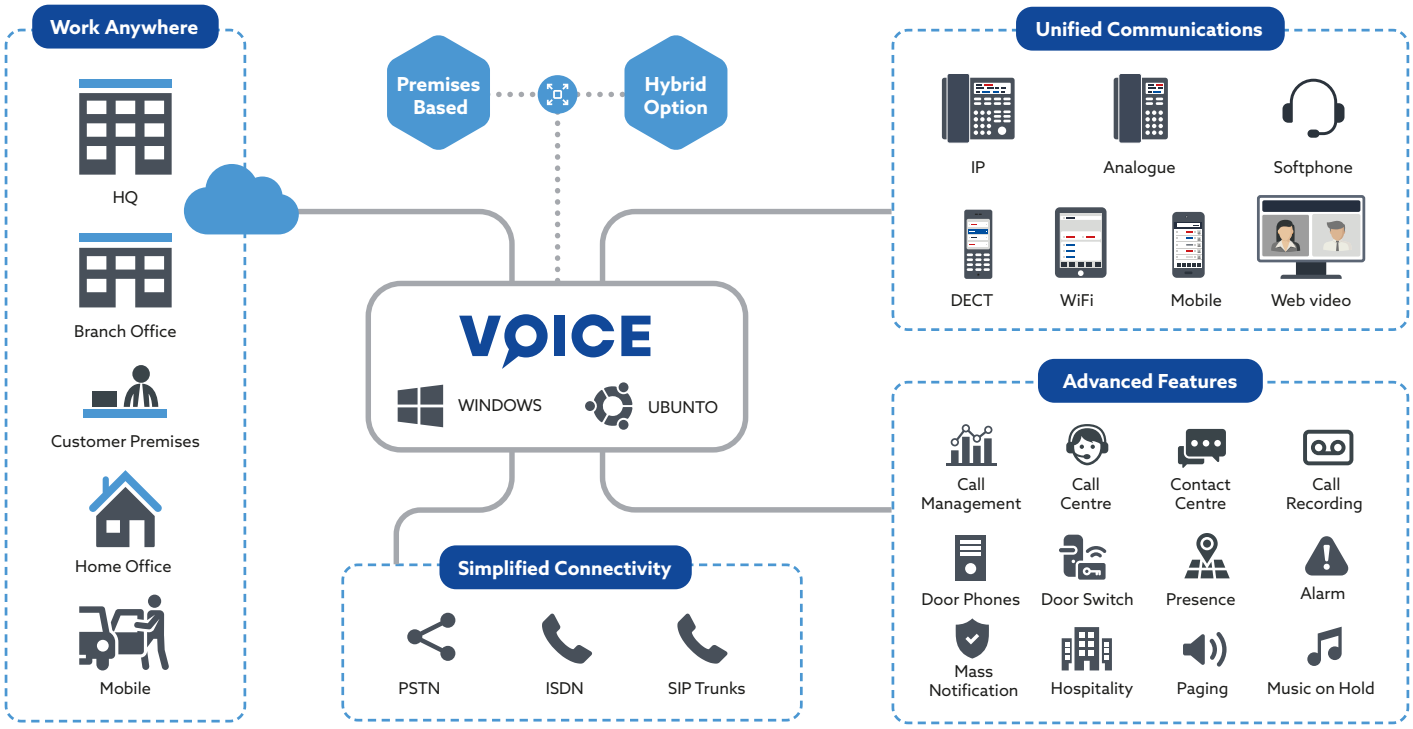
Users benefit from a single contact number that works across multiple devices, with seamless call transfers between public mobile and enterprise networks, ensuring uninterrupted communication while on the move.

COLLABORATE

Fully interactive collaboration is just seconds away with video conferencing, shared whiteboards, and screen sharing available at the click of a button. Experience real-time teamwork, now!

VOICE COMMUNICATIONS

COMTEL



SYSTEM CAPACITY

Total System Capacity[1]

- Up to 60.000 lines with any combination of registered station and trunk[2]
- Up to 30.000 UC enabled user seats
- Up to 20 Unified Communications Manager (UCM) server nodes
- Up to 1.000.000 Busy Hour Call Attempts
- Up to 5.120 media server sessions used for any combination of: voicemail, auto attendant, call monitor/barge, callrecording.
- Up to 20.480 concurrent mobility calls[3]
- Up to 2.000.000 contact entries in the 3C system

UC MANAGER SERVER CAPACITY

Per UCM Server Node[4]

- Up to 6.000 lines[5] with any combination of registered station and trunk. Including up to 999 C-link trunks[6]
- Up to 3.000 UC enabled user seats
- Up to 50.000 Busy Hour Call Attempts

Voicemail, auto attendant, call monitor/barge, call recording

- Up to 1.024 concurrent mobility calls

SESSION INITIATION PROTOCOL (SIP) SUPPORT

The following SIP and SIP related standards are supported on the UNIVERGE 3C system[9]:

SIP Stations

- RFC2833
- RFC3261
- RFC3262[10]
- RFC3263
- RFC3264
- RFC3265
- RFC3311
- RFC3325
- RFC3326
- RFC3428
- RFC3515
- RFC3581
- RFC3665
- RFC3725
- RFC3842
- RFC3891
- RFC4028
- RFC4411
- RFC4412

SIP Trunks

The core standards document for SIP trunking is RFC3261. Originally defined in RFC2543, the current standard is contained largely in RFC3261 and RFCs 3262-3265.

1. This varies based on the number and class of servers utilized as well as the range of devices and UC client applications utilized.
2. Stations are SIP based line registrations, hard or soft, including IP Phones and analog phones connected through a media gateway. Trunks are per bearer channel registrations, hard or soft, including tie lines and PSTN connections of various types including analogue, digital and SIP based.
3. Mobility calls are calls to/from outside phone numbers, assigned to users, either on the PSTN or on another PBX connected over a tie-line.
4. This varies based on the class of servers utilized as well as the quantity of UC client applications hosted per server, the amount of reserve capacity set aside for fail over scenarios, among others.
5. In case of a redundant multi node network, capacity is reserved for fail-over purposes. If one node fails, lines can be spread over the other nodes. In case of "n" nodes, each node can have a primary capacity of ((n-1)*6.000)/n lines, while each backup node will reserve 6000/n lines on behalf of a fail over situation. Examples:
   - 2 nodes can support 3.000 primary lines while 3.000 lines will be reserved for fail-over purposes.
   - 11 nodes in a redundant network can support 5.455 primary lines and has 545 lines reserved for a fail over situation.
6. C-link is a proprietary protocol used to trunk to traditional NEC PBX systems.

SECURITY[11]

Transport Layer Security Encryption (TLS)

> Call control with SIP
> Application sessions with HTTPs
> Configuration file and firmware download with HTTPs

Secure Real-Time Transport Protocol (sRTP) Encryption

> Audio media streams
> Video Media streams

Real-Time Messaging Protocol Encryption (RTMPE)

> InForm Voice Web Conferencing:
  - Web browser audio media streams
  - Web browser video Media streams
  - Web conferencing content sharing

User Authentication

> Uniform user credentials with Active Directory authentication

Security Certifications

> US Department of Defense Joint Interoperability Test Command Unified Capabilities Requirements:
  - Information Assurance
  - PBX level 1
  - Local Session Controller

UPGRADES FROM EXISTING NEC PLATFORMS

Existing customers with Univerge SV platform can expand and grow their architecture toward a full IFV system and retain most of the applications and most of the legacy hardware for the best revaluation of the investments.

COMTEL cares about their customers and partners with taiolored solutions thanks to along history and strong knowledge in Voice over IP, data networks and the esclusivity in maintainig and expanding previosus NEC systems

MEDIA SESSIONS AND CODECS SUPPORTED

Unified Communications Manager

Audio[12] **Encoding:**

> AMR-WB	> iLBC	> T.38	> RTMP
> CLEARMODE	> G711a (PCMA)	> telephone-event	
> G.722	> G711u (PCMU)	> v150fw	
> G.722.1	> SIREN14	> NoAudio	
> G.729	> SIREN22		

Video

> H261	> H263-1998	> MPEG4_QVGA	> RTMP
> H263	> H264	> MPEG4_VGA	

Resolutions:

> HD: 1280x720, 1920x1080	> CIF: 352x288	> 240x144 (8 fps)	> 320x192 (20 fps)
> VGA: 640x480	> QCIF: 176x144	> 256x154 (10 fps)	> 640x384 (20 fps)
> QVGA: 320x240			

Bit Rates:

> 128 kbps	> 512 kbps	> 1472 kbps	> 50 kbps	> 512 kbps
> 256 kbps	> 768 kbps	> 1920 kbps	> 100 kbps	> 1000 kbps
> 384 kbps	> 1024 kbps	> 2048 kbps		

Frame Rates:

> 10 fps	> 15 fps	> 30 fps	> 8 fps	> 10 fps	> 20 fps

Web > http/https

Chat > XMPP > http/https

9. NEC does not claim to support all aspects of these standards, and does not ensure full interoperability with any SIP device. NEC does ensure the features and functions for certified SIP stations. See the NEC product manuals for full details.

10. Llimited support for RFC3262.
11. Capabilities vary based on selected endpoints.
12. Supported codecs and media format vary by endpoint. Certain media services may restrict codec use. Refer the UNIVERGE 3C system requirements for details.

InForm Voice brings together the best in Unified Communications to drive performance and agility. Current NEC UNIVERGE SV customer can now easily upgrade and migrate to InForm Voice, preserving existing assets while unlocking next generation capabilities.

OPERATING SYSTEMS AND ENVIRONMENTS

Unified Communications Manager Server

> Microsoft® Windows® Server 2022 64-bit
  - Standard or Datacenter w/GUI - English
> Microsoft® Windows® Server 2019 64-bit
  - Standard or Datacenter w/GUI - English

IFV – UCM UBUNTU Version

> Ubuntu 22.04 LTS Desktop- Required
  - 8GB Ram
  - 4 CPU Cores
  - 250GB SSD/HD

Desktop UC Client

> Microsoft Windows 11
> Microsoft Windows 10
> Apple Mac OS X 10.6 or later

Outlook Connect add-in

> Microsoft Outlook O365
> Microsoft Outlook 2019
> Microsoft Windows 11
> Microsoft Windows 10

Mobile UC Client

> iPhone versions iOS 15.0 and higher
> Android 9.0 and higher (required)
  - 1Ghz or higher processor (required)
  - Screen resolution 480 × 800 pix (recommended)
  - Screen size 4” (recommended)

IT INFRASTRUCTURE COMPATIBILITY

Virtualized Server Support

> Microsoft Windows Hyper-V Server 2019 v10.0.17763.1
> Microsoft Windows Hyper-V Server 2016 v6.2
> VMWare v7.0 or higher

The Host as well as Guest Operating Systems require the same operating systems as the listed in the section ‘Operating Systems and Environments’ of this document

Microsoft Active Directory Integration

> Windows 2016 or 2012 Schema
> Single Forest & Multiple Forest integration
> User authentication
> User information and details
> Directory search

Microsoft Exchange Integration

> Microsoft O365, Exchange 2019
> Voicemail Messaging / Unified Messaging
> Global Address List Search
> Calendar Presence

Network Services

> Dynamic Host Configuration Protocol (DHCP)
> Domain Name Services (DNS)
> Multicast IGMPv2 (optional)

High Availability

> UCM Servers
  - Primary UCM Server: 1+1 Active/Standby using virtualization and automated live migration
  - Secondary UCM Servers: N+1 Active/Active
  - Periodic database replication to all secondary servers
> Media Gateways

  Automated failover/failback to designated UCM servers
> IP Phones

  Automated failover/failback to designated UCM servers

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