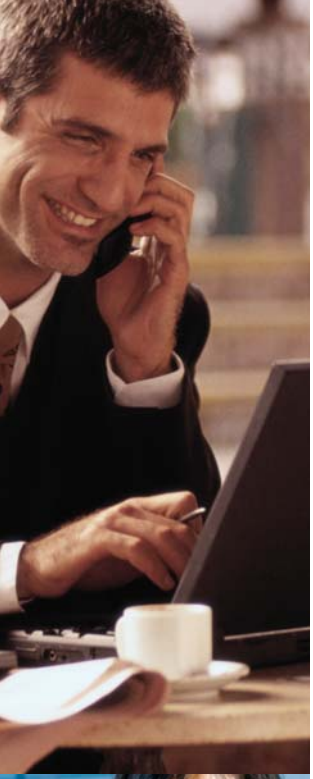

» IP Telephony – The Right Solution for Your Company «

HiPath 2000 Real-Time IP System is a full featured IP telephone system with the ability to deploy quickly and cost effectively.

In today's world, fast, reliable communication is a critical factor in the efficiency of business processes – and is essential to business success. If you already have a powerful IT infrastructure in your company – why not use it for voice communication as well?

Voice communication via an IT infrastructure – IP telephony – the communication solution of the future. And with the HiPath® 2000, IP communication gives your company a competitive edge today.

The new HiPath 2000 is a pure IP communications system with an open Linux-based software architecture. It offers companies with up to 30 employees fast, easy access to uniform voice and data communication via the Internet Protocol. It is also integrated in business processes.

With HiPath 2000 companies can utilize a comprehensive range of features and communicate via high-quality devices and clients that are simple to operate. IP communication with HiPath 2000 provides security, high quality, flexibility and high availability. Quality of Service (QoS) helps ensure constant high voice quality and gives voice communication top priority in the hierarchy of data flow. Thus companies do not have to give up anything that characterizes today's TDM telephony, but they can also exploit all the advantages of IP communications.

Benefits of HiPath 2000

- Low procurement costs, integrated access router and gateway are implemented in a single system
- Preinstalled Linux and HiPath ComScendo® software makes start-up extremely simple (plug and play)
- Low maintenance costs through IP network technology
- Reduced service and administration costs through Web-based management
- Secure IP communication through VPN with IPsec
- Flexible expansion via user licenses (10 licenses come pre-bundled)
- Economical integration in HiPath networks via CorNet®-IP/SIP-Q and open for future SIP carrier services

HiPath 2020

- Up to 20 IP telephones

HiPath 2030

- Up to 30 IP telephones
- Two analog ports
- Integrated voice mail module with up to 24 boxes

HiPath 2000 Real-Time IP System

http://usa.siemens.com/enterprise

SIEMENS

System Features

The HiPath 2000 offers a wide range of HiPath ComScendo features

Selected HiPath ComScendo features

Caller list – Unanswered internal and external calls are displayed on optiPoint™ telephones with a display if external calls contain a caller ID number and internal calls are transmitted with the caller's name.

The calls are entered in a list with a date and time stamp and the number of call attempts is recorded. A callback to internal callers can be initiated directly from this list.

Do-not-disturb/"silent caller" – Callers will either go directly to voice mail or hear the busy signal when "do-not-disturb" has been activated. Authorized users (attendants, for example) can override this feature. Acoustic signaling or ringing of calls can be deactivated on optiPoint telephones so they are only indicated on the display (not available on optiPoint 410 entry).

Call pickup – Calls can be picked up on users' own telephones within a call pickup group or selectively for specific colleagues.

Override – Authorized stations can intrude on other users' calls in progress.

Classes-of-service – Different access authorizations can be assigned to each user, with a distinction being made between:

- No trunk access
- Outward restricted trunk access
- Unrestricted trunk access
- Six allow lists/six deny lists
- 254 outdial rules coupled to toll restriction

Broadcast intercom call – optiPoint telephones or over external loudspeakers.

Call cost log – Call records can be output to a local printer in a standard format or can be output to a separate Call Accounting device (Call Accounting requires the purchase of additional equipment).

Line keys (MULAP) – The following flexible setups are possible with line keys:

- Teams
- Executive/secretary functions

Group call – For a total of 20 groups with maximum 20 users per group. Individual stations can temporarily leave the group.

Internal telephone directory – All extensions are stored with their associated names in the system's internal telephone directory. They can be searched and dialed directly via the display on system telephones.

Speed dialing individual/system – It is possible to store up to ten individual destinations on each telephone and up to 1,000 destinations centrally in the system. System numbers are accessible via the internal telephone directory.

Toggling – Between two existing connections.

Text messages – Any user can send another user a pre-defined message or short messages can be typed to individual stations and viewed via the display.

Advisory messages – Can be left on your own telephone (e.g., Back at...). When internal callers contact you they receive the advisory message via their telephone display.

Project code – Telephone costs can be assigned to a specific procedure or project by entering the project code (maximum 11 digits). This can also be done while a call is in progress.

Call number suppression – Callers can suppress the display of their directory number on the called party's terminal either on a system-wide basis or temporarily.

Distinctive call signaling – For internal calls, external calls, recalls and callback calls.

Add-on ringing – Call signaling simultaneously at several telephones.

Automatic redial (expanded) – For the last three external call numbers dialed.

Uniform Call Distribution (UCD) – Incoming internal or external calls are routed to the station user (agent) idle the longest in a UCD group. Agents can log on from any telephone by entering an ID. After logging on, the agent is available and is assigned to that telephone until logged off. If agents are busy, the call may be routed to an overflow group, or put in queue and then distributed to the group members when available. The UCD group may also be forwarded (night answer for UCD).

Selected HiPath ComScendo Features

- Absentee text messages
- Announcement/message facility
- Automatic redial (expanded)
- Authorization classes
- Call cost logging
- Call destination and call source display in the event of call diversion and call pick up.
- Call forwarding – no answer after timeout; immediately if busy
- Call forwarding from the extension
- Call intercept
- Call number suppression
- Call pickup
- Call signaling
- Call transfer (internal/external)
- Callback facility from public network provider
- Callback on busy and no answer (automatic)
- Caller list
- Camp-on/call waiting tone
- Conference (internal/external)
- Consultation
- Display languages (can be specified individually)
- Do-not-disturb/silent call
- Door intercom and lock function
- External music source (optional)
- Group call
- Hunt group (linear/cyclic)
- Integrated voice mail (HiPath 2030 only)
- Intercept position/switchboard
- Internal texts to optiPoint handsets
- Line keys
- Line seizure (automatic)
- Lock telephone (individual code)
- Music-on-hold with system announcement
- Night service/Day service
- Parking
- Project code
- Recall
- Speed dialing (individual/central)
- Telephone book, central or internal
- Toggling

Attendant Consoles

optiPoint Attendant

A flexible switchboard solution in two variants: the optiPoint 420/410 IP phone, facilitates a convenient status overview of all current calls. If an extension is busy or an employee unavailable, all calls can be diverted to the operator. And with the optiClient® Attendant software package, a convenient switchboard can be emulated on the PC, enabling all functions to be carried out with the convenience of a mouse and keyboard.

Special features in addition to the conventional telephone functions are also provided:

- Night service
- Telephone book (Outlook contact files or LDAP directories)
- Number of queued calls
- Enabling for call waiting
- Hold
- Call key 1
- Call key 2
- Release

In addition, a key can be set up with the "error key" feature. The attendant console can be accessed internally via a second directory number. It is possible to extend undialed lines and calls on hold. If the number of users on hold reaches a preset level, calls will be forwarded to a specified destination. This will also take place when the length of time a call is queued exceeds a specified limit. A user assigned to the specified destination will be regarded as the attendant even without an attendant console helping to ensure continuous operation.

Executive/Secretary Features

These features ensure rapid communication between executives and secretaries.

- Camp-on at an executive's phone by the secretary's phone
- Secretarial function transfer
- Call transfer to the secretary's phone
- DSS keys for executive/secretary executive's phone
- A private line can be set up for either the executive or secretary
- Conference corner telephone with parallel call signaling to the executives phone

System Administration

System administration by the customer can be carried out via an intuitive web-based administration, on the phone and using the HiPath 3000 Manager E/C program or HiPath 5000 RSM (Real-Time Services Manager) if managing multiple systems.

Data is exchanged using SNMP (Simple Network Management Protocol). The following functions are supported:

- System administration
- Fault management
- System software updating

Relocate/Mobility

This feature allows users to relocate without the need for subsequent interventions by system administrators. A relocated user retains their existing extension number, button layout and user features. This ensures that users involved are available as quickly as possible following relocation (e.g. project groups). Since the IP device is not moved, E-911 compliance is ensured.

Data Protection/Data Security

To protect the real-time IP system and customer data from unauthorized access, the Service menu can only be entered by means of individual user IDs. This means it is possible at all times to establish who carried out what system modifications and when.

System administration structured user data – Access via the Service menu using an individual user ID and password to protect customer data such as speed dialing destinations and call charge data. Real-time IP system owners can make minor system settings with a defined scope themselves.

System data – Access via the Service menu using a user ID for system administration and password. Access to this data area is restricted to qualified personnel and is password-protected.

- Password concept with individual identification and authentication
- System access via telephone or service tool and remote access is controlled
- Administrative procedures can be logged. (Who made changes, and when)

User Solutions

Integrated Voice Messaging

If no one answers an extension, the integrated voice mail function ensures that no call is lost. Many convenient features optimize accessibility:

- Up to 24 individual mailboxes
- Two hours of recording capacity
- Two personal greetings to choose

And with the auto attendant functionality, callers can be connected to another extension if a number is busy.

Computer Telephony Integration (CTI) HiPath TAPI 120/170

Enables the link between PC and IP telephony and allows TAPI-compliant applications to be integrated via CTI. Call traffic can be managed more effectively though call registration, caller ID and the creation of tasks. Connecting a database allows customer queries to be answered more professionally.

Application Support

The following interfaces are supported for connecting applications

- SNMP version 1, DDE, TAPI, JTAPI, CSTA asn.1, CSTA XML

Third-Party Video Conferencing

A variety of multimedia applications can be combined with HiPath 2000 to form a convenient video conference system. Applications from various manufacturers are available.

Internet Routing Features

- Dynamic IP address procurement from the Internet provider
- Internet accessing using just one IP address of the Internet provider, i.e. cost-effective solution for all PCs in the network
- DHCP and NTP Servers for assignment to PCs and IP telephones

Plug and Play Technology

- DLI function (Deployment License Service) for automatic installation and software updating of Siemens IP clients and devices
- DHCP server for provisioning IP endpoints and other servers with IP addresses
- DHCP client for supporting external DHCP servers.

Authentication

The Password Authentication Protocol (PAP) and Challenge Handshake Authentication Protocol (CHAP) protocols were developed in response to increasing demands placed on the security aspects of data networks. The PAP/CHAP/MS-CHAP procedures can be employed to authenticate the users if an external connection (WAN) is set up via HiPath 2000.

Access Control (Firewall) Prevents unauthorized persons from accessing the corporate LAN. The firewall mechanisms include:

- Checking the IP addressing
- MAC firewall (checking the MAC/IP address combination in the internal LAN)
- Port filtering; Enabling and disabling services according to IP addresses

Quality of Service (QoS)

Voice quality in the IP network is ensured by the following QoS protocols:

- IEEE 802.1p Tags (Layer 2)
- Type of Service (ToS) prioritization (RFC 791, Layer 3)
- Differentiated Services (DiffServ; RFC 2474, Layer 3)
- VLAN in accordance with 802.1Q

IP Networking

With HiPath 2000 it is possible to network multiple locations (nodes) via TCP/IP-based data lines. In doing so, the CorNet-IP or SIP-Q protocol is tunneled in the data flow.

DMZ (De-Militarized Zone)

This "neutral zone" between a company's private network and the outside public network prevents users from getting direct access to a server that has company data. Typical uses include:

- Email server
- Web server
- FTP server

Virtual Private Network (VPN)

VPN and IPsec increase security with "Site–to-Site" networking between locations with the following benefits:

- Secure Internet connection, no manipulation of confidential voice and data communication
- Secure integration of external partners into the company network
- Secure access to corporate information for mobile workers and teleworkers

Networking variants:

- "Site-to-Site" VPN (site networking)
- Remote Access VPN (remote access by mobile workers)

Performance features:

- IPsec: authentication and confidentiality using ESP
- Tunneling, secure VPN connection with another VPN gateway or a VPN client
- Connecting teleworkers to the VPN (Safenet Sentinel)
- Automatic Reconnect (automatic restoration of internet connections following a forced disconnection)

Least Cost Routing

HiPath 2000 uses least cost routing (LCR) to automatically control the path used for an outgoing call. Calls can be routed via the public network or a private network. The most favorable connection path for the call is found using the routing tables.

Call Charge Management

A variety of PC-based software programs are supported for recording and assigning incoming and outgoing call charge data that permit evaluation by extension, trunk, department etc. The call charge data can be transmitted directly to a central server via the LAN interface.

Clients and Devices

The optiPoint 420, optiPoint 410, optiPoint WL2 professional and optiClient 130 client and devices are available for various workstation requirements.

optiGuide®, the interactive user prompting via a display and dialog keys, facilitates feature activation from IP telephones.

optiPoint 420 advance

Ideal for desk sharing and flexible office environments. Innovative self-labeling key (SLK) technology for automatic transfer of key layouts, allow users to have their buttons from another device in the network.

Other Models Include

- optiPoint 420 economy
- optiPoint 420 economy plus
- optiPoint 420 standard

optiPoint 410 standard

A flexible IP phones with maximum adaptability, and exceptional high voice quality due in part to the G.722 codec technology. Feature updates can be easily carried out via software download.

Other Models Include

- optiPoint 410 entry
- optiPoint 410 economy
- optiPoint 410 economy plus
- optiPoint 410 advance

optiClient 130 Soft Client

Telephony via the PC offers exceptional performance and value and allows for convenient and simple access for remote workers.

optiPoint WL2 professional

Provides mobile communication in both the office and industrial environments. Can also be integrated into existing WLAN infrastructures.

AP 1120

Up to two existing analog devices can connected to a HiPath 2000 over the Ethernet network (per device), preserving investment in legacy equipment (fax machines, phones, etc).

Additional devices for analog support (H.323 or SIP) supported as well. HiPath 2030 has embedded support for two analog subscriber (FXS) devices.

optiPoint Modules and Adapters

Siemens offers a quick and cost-effective way to modify optiPoint telephones, allowing you to add IP and universal sets at any time.

- Add headsets and other devices
- Add function keys, labeling options, speakers and microphones

optiPoint application module

Large color touch screen enables easy access to a range of telephone applications such as WAP browser for Internet access, Corporate Directories via LDAP queries, voice activated dialing, and java applications. Users can complete work faster and more efficiently.

optiPoint key module

Add-on device for optiPoint 410 telephones with 16 function keys (double entries) and LEDs.

optiPoint BLF module

Add-on device for optiPoint 410 telephones with 90 function keys and LEDs.

optiPoint acoustic adapter

For connecting active loudspeaker box, headset, two contacts for busy display or door opener.

optiPoint recorder adapter

For connecting a recorder or a second headset.

System Interfaces

On the Trunk Side

US-T1

- Fractional T1 (8 channels)

On the User Side*

Analog

- Two a/b (t/r) for connecting analog terminals such as group 2 and 3 fax, Vtx, modem

*HiPath 2030 only

IP Interface

- Four Ethernet connection for IP phones, networking via IP
- System administration via TCP/IP
- Support of VPN with IPsec
- Support for T.38 Fax
- Support for CorNet-IP
- Support for SIP (RFC3261)
- Support for H.323V4

Additional Interfaces

USB (for administration only)

Technical Data

Power Supply

Systems, by default, are designed for AC operation. Possible power outages can be optionally bypassed with an uninterruptible power supply (UPS).

Rated Input Voltage (AC) 88 to 264V

Rated Frequency 50/60 Hz

Battery Supply (DC) -48 V

Environment/Operating Conditions

Temperature +5 °C to +40 °C

Relative Humidity 5 to 80%

Expansions	HiPath 2020	HiPath 2030
Analog users (a/b) embedded	0	2
IP user	20	30
optiClient Attendant (PC attendant console)	1	1
optiPoint key modules	100	100
optiPoint BLF	6	12
Integrated voice mail maximum users	NA	24
Dimensions W x H x D (metric)	17.3" x 1.7" x 9.45" (440mm x 44mm x 240mm)	17.3" x 1.7" x 9.45" (440mm x 44mm x 240mm)
Weight (approximate) (metric)	6.6 lbs (3 kg)	6.6 lbs (3 kg)
Case color	Blue basic	Blue basic
Software version	V1.0	V1.0

Siemens—Award-Winning Solutions

2005 Well-Connected Award—Digital Convergence: Best VoIP Package
Network Computing
HiPath 3000 V4.0 Real-Time IP System

2005 Well-Connected Award—Digital Convergence: Core Area Winner
Network Computing
HiPath 3000 V4.0 Real-Time IP System

2005 Technology Leadership Award
Frost & Sullivan
Siemens SIP-Based Product Portfolio

2005 Business Development Strategy
Frost & Sullivan
Siemens® LifeWorks®

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