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Hicom 300 H V1.0

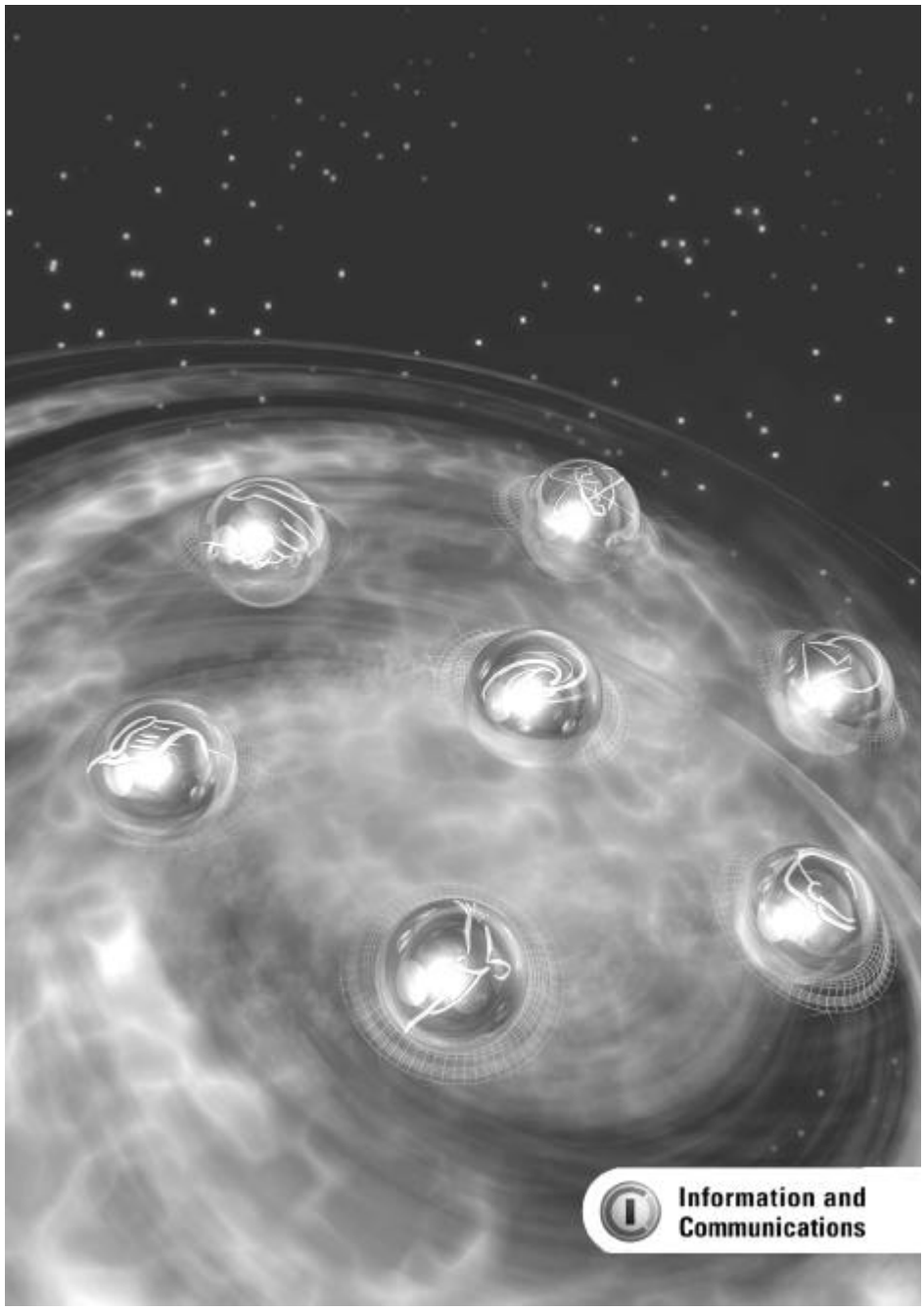
Communication Server

Fusion of End-to-End Solutions

Investment Protection

Innovation & Evolution

Solution Platform for a Mobile Multimedia Millennium



Open Route to The Future

Due to globalization of the economy, growing diversity of business transactions and increased competition, companies are changing the way they communicate with new processes that sharpen business performance.

This communication evolution is governed by applied infrastructures with converged services and integrated applications. The convergence of information and communication is an important trend influencing both current and future markets, industry and technology. The biggest challenge facing all manufacturers is how well we recognize the mega trends and synergies in each of these evolving areas and anticipate the resulting paradigm shifts in time to provide leading-edge convergence solutions.

Our focus with the Hicom 300 H Communication Server for enterprise business is on:

- innovation with integrated applications and services
- consulting expertise in vertical marketing to assist transforming business practises and industries with best-breed solutions
- continuous technological advances to improve networking performance.

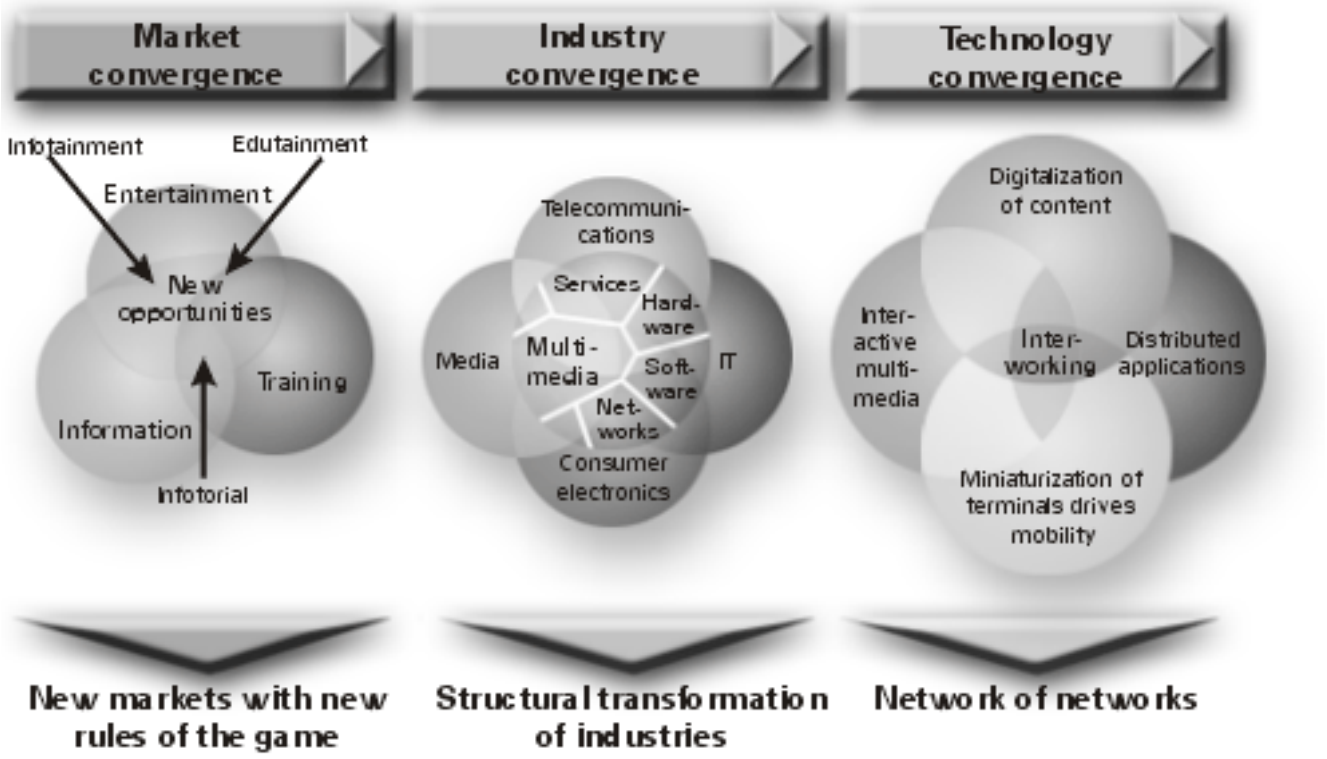
In contrast to traditional voice telephony, the Hicom 300 H V1.0 communication server and its IP and ATM solutions have been developed to **fuse end-to-end solutions**, integrating voice, data, fax and image via ATM and IP. The Hicom 300 H further supports the integration of voice and data with optiClient Workflow solutions that maximally optimize business processes by linking real-time communications with database-supported operations.

The Hicom 300 H optimally supports the transition from voice-centric switching to converged infrastructures and offers added value with new applied technology and cost-saving features.

By supporting a smooth evolution to future infrastructures, the Hicom 300 H secures **investment protection**. Key to this are open interfaces and standards based solutions that provide a platform for the integration of communication and data applications.

New technology deployment enables the delivery of converged networks, applications and services that offer real value and greater benefit to customers.

Information and communication infrastructures are protected and developed with **innovation and evolution**, rather than revolution.



Open Route to The Future

The Hicom 300 H Communication Server is a global solution that helps distinguish customers' business from the competition. It differentiates itself by:

- reducing costs through networking, network integration and central network management
- offering very high service reliability and availability
- enhancing service quality with innovative applications and high speed access
- protecting assets and investment with open standards based platform
- increasing efficiency with best-class convergence solutions for customer care, unified messaging and mobility requirements
- ensuring scalable solutions and customizable workflows that streamline business processes
- improving productivity through enhanced value-added telephony features

Infrastructure costs are greatly reduced with applied features such as: voice compression; least cost routing (LCR); transmission of voice and fax via Intranet; and applied ATM Networking. Effective cost management does not just consider the physical cost of the network application alone, rather also the total cost of managing day-to-day operations and administration.

This is the case with both stand-alone systems and network enterprises. Central network management provides efficient managed services with single-point-of-entry that reduces operational costs.

Furthermore, newly planned integrated system ´´serviceobotics´´ improves the performance of a single system by providing fast remote access via open interfaces and new service functions such as Inventory Management, Remote SW Supply, Local Alarm Agent as well as integral service features for tracing, monitoring and intelligent fault management.*)1

The integral LAN access*)1 supports high speed access for enhanced Hicom service quality and to customer LANs. The **vision** for serviceobotics is to provide as much automated self-servicing as possible with intelligent service functions on an open integral platform with standard interfaces. Hicom 300 H V1.0 is the building block for our service strategy which will improve overall life cycle costs and heighten the reliability and availability of Hicom solutions.

Asset protection is further safeguarded through the use of open interfaces and standard protocols that are suitable for present-day and future services for flexible migration. Enhanced interworking and VPN connectivity are enabled in heterogeneous and homogeneous networks with Private Network Emulation, extended QSIG, CorNet NQ, DSS1 (and DPNSS1 in selected countries).

The new hardware available with Hicom 300 E V1.0 offers best-in-class performance with new technology deployment in processors, interfaces and components. Future evolution and flexible innovation is secured with state-of-the-art applied technology. The Hicom 300 H hardware also offers scalable configuration appropriate to individual customer requirements whilst retaining the flexibility to expand as future business needs demand.

Our applications can be integrated with all business sectors, providing standardised interfaces for CT (Computer Telephony) and CTI (Computer Telephony Integration) such as TAPI (Telephony Application Programming Interface), CSTA (Computer Supported Telecommunications Application) and JTAPI (Java based TAPI). Customers are supported in the design, implementation and operation of new business models for innovative and highly profiled customer care. The Hicom offers optimum, award winning customer services supplemented by Xpressions, HiPath ProCenter Entry and HiPath ProCenter Standard/Advanced with leading edge automatic call distribution, skilled based routing, media routing, unified messaging and collaboration solutions.*)1*)2

Support of cordless E, corporate GSM servers and Teleworking provides the complete solution portfolio to meet the mobility, telecommuting and shared-desking requirements of evolving mobile enterprise organizations.*)1*)2

Networking features also greatly enhance team configurations in the enterprise. The multitude of classic voice features for networking and desktop productivity are enhanced with every new Hicom 300 H version.Value added conventional features such as Key 300 E, Call Log and Data Security further optimize desktop productivity with optiset E. The optiset E is a flexible part of the enterprise with a unique intuitive scroll menu and simple user interface.

To use the advantages of a single system if subscribers are mainly distributed Hicom 300 H offers the possibility to distribute standard Hicom shelves HiPath AP 3300 to remote locations via fiber.

)1 /)2 Check with your local representative for country specific availability dates

Modularity and Flexibility

The entire platform range of Hicom 300 H (Hicom 310 H, Hicom 330 H and Hicom 350 H) supports common software, interfaces and business applications. All three variants offer common value-added features. With this modularity plus powerful networking support, the Hicom 300 H offers an ideal solution for the entire infrastructure - regardless of size and location requirements.

Hicom 310 H

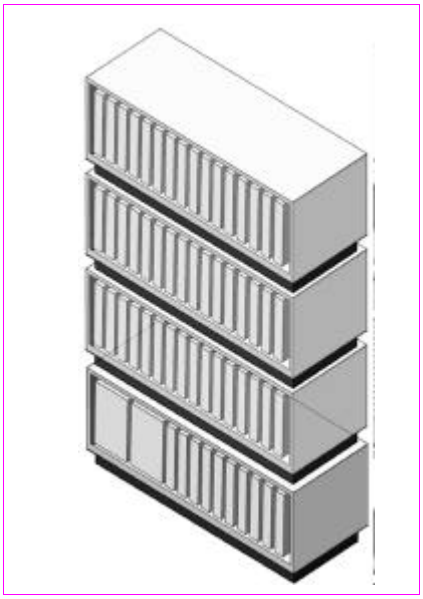
The smallest of Hicom 300 H is the Hicom 310 H which supports up to 96 ports and is available either within it's own casing, or housed in a 19-inch boxed shelf. This size is ideal for branch office solutions with fewer subscribers yet the need for full networking and feature functionality.

Hicom 330 H

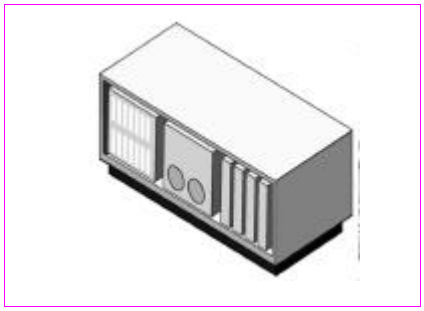
With Version 10, both the Hicom 330 H and the Hicom 350 H use the same modular stackable shelf concept. The Hicom 330 H Stack (now up to four shelves per stack) has been flexibly designed to further increase the capacity up to 1392 ports, greatly enhancing the positioning of the mid-size system. Now the Hicom 330 H is attractive for both small to mid-range as well as the high-end simplex configurations.

Hicom 350 H

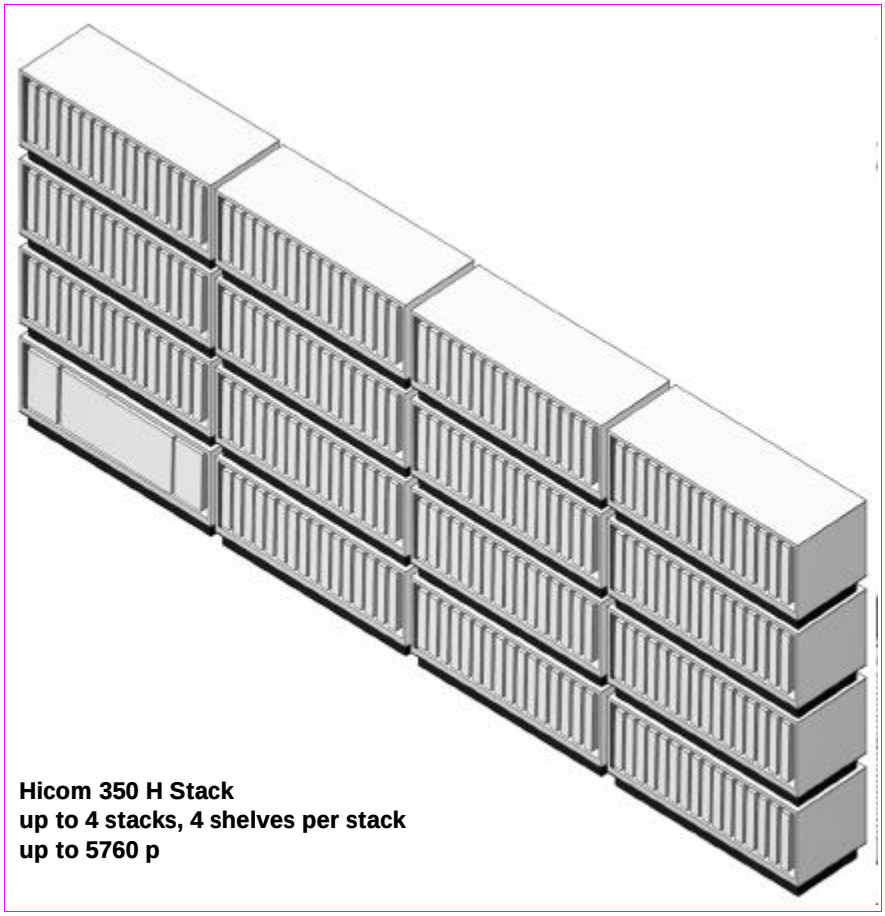
The Hicom 350 H Stack is available as simplex and with redundant common control as duplex. The basic configuration can be a single shelf duplex system with 384 ports. This can be modularly expanded shelf-by-shelf up to 4 shelves per stack and 4 stacks per system, up to 5760 ports.



Hicom 330 H Stack
Base shelf plus up to 3 expansion shelves up to 1392 p



Hicom 310 H
1 box with 4 slots, 96 p



Hicom 350 H Stack
up to 4 stacks, 4 shelves per stack
up to 5760 p

Hicom 300 E V1.0 Communication Server and IP Components

Solution Platform for a Multimedia Millennium

Together with IP components, the Hicom 300 H communication server provides the cornerstone for employing uniform solutions. As the link between voice, data, and video communication, these IP components support integration in multimedia environments.

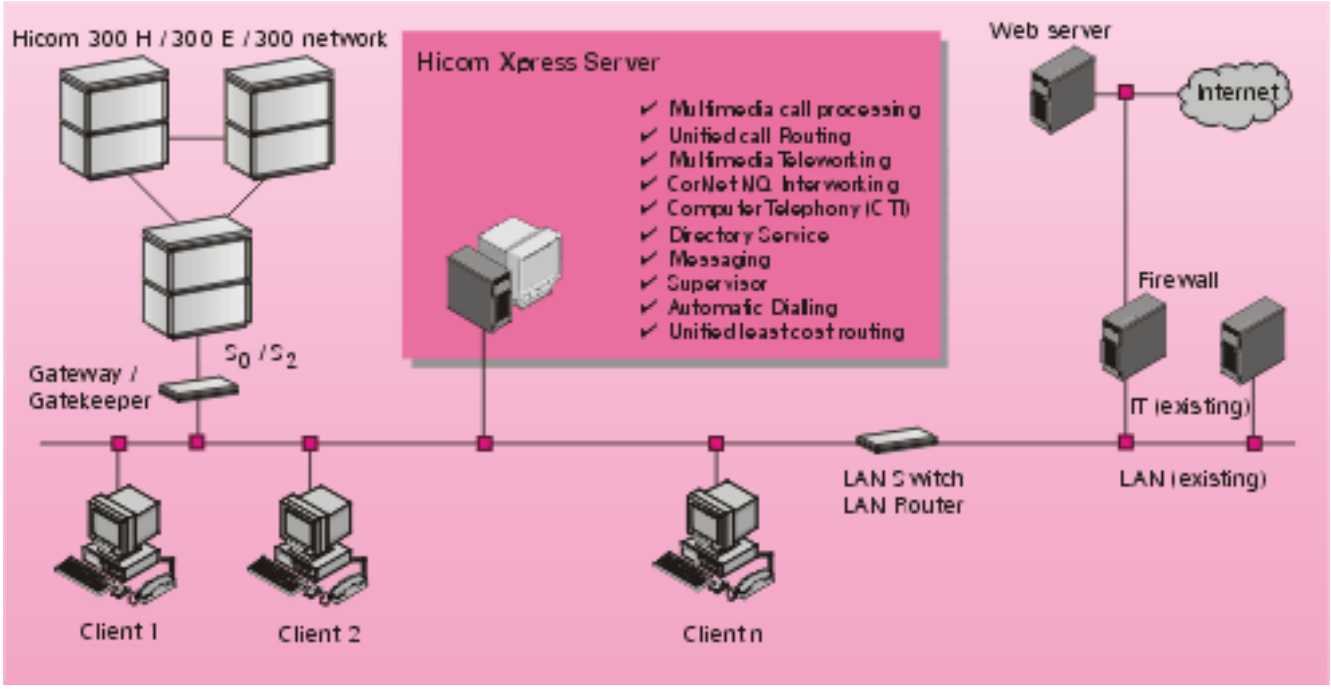
Solutions for Office Communication over IP

Our optiClient Workflow solutions are ideal for users in highly process-oriented professional environments such as insurance companies, brokerage firms, sales departments, legal firms, mail-order firms, telemarketing agencies and customer service operations. optiClient Workflow solutions provide integrated voice and data solutions that optimally support business processes with components that offer both multimedia applications for high-quality, reliable communication and the telephony features familiar from Hicom. The existing Hicom and LAN infrastructure, with all its features, can be integrated so that investments to date are protected.

Innovative Solutions

Voice-over-IP (VoIP) solutions are solutions for corporate LANs such as HiPath 5500/5300 that integrate all media within the IP network (data, voice, e-mail, fax, Internet) on a multimedia PC, thus allowing multimedia communication. The available solutions provide selected services such as unified messaging and also a broad range of applications such as multimedia call routing, directory services, database screen pop-ups, and multimedia messaging. This is all based on real-time communication in the LAN.

The HiPath RG 2500 IP gateway sets up the connection between the IP and Hicom network for voice, video, and data services. The gateway also forms the basis for multimedia communication over different types of networks (IP and ISDN). This makes new features of multimedia communication possible on the existing infrastructure used by Hicom and the LAN with no radical changes to the network structure. Expanding multimedia workstations step-by-step in line with customers' individual needs ensures maximum asset protection.



Workflow solutions

Hicom 300 E V1.0 Communication Server and IP Components

ATM Solutions

Productivity at the Workstation

The IP Client is a H.323 multimedia terminal. In addition to video communication it also supports voice communication with any telephone connected behind a PBX or a carrier's system.

The optiClient 130 is a computer-supported version of the optiset E telephone together with Hicom 300 H and Hicom 150 H. By supporting VoIP, and in combination with the Hicom communication server, this client offers users extensive features on the PC and supports the use of directory services, CTI, and application sharing. And the various components can be flexibly combined. Operation can be learned intuitively as with the optiset E, and the optiset E's much applauded ´´three key´´ functionality is also available, of course.

Cost Optimization

The Telephony Internet Server (TIS) V2.0 enables transmission of telephone and fax calls via an Intranet, or a secured IP network available from service providers. TIS also supports all network-wide features compliant with QSIG, CorNet N and CorNet NQ. International and national customers who need to connect sites in a cost-efficient way without losing the comfort of proven Hicom telephone features can now take full advantage of available technology by using IP infrastructures instead of dial-up and/or leased lines. A significant reduction of transmission costs can be achieved with bandwidth savings up to 84%. TIS also automatically routes new calls to a backup network if the system is overloaded or the IP network is down.

Solutions for Office Communication over ATM

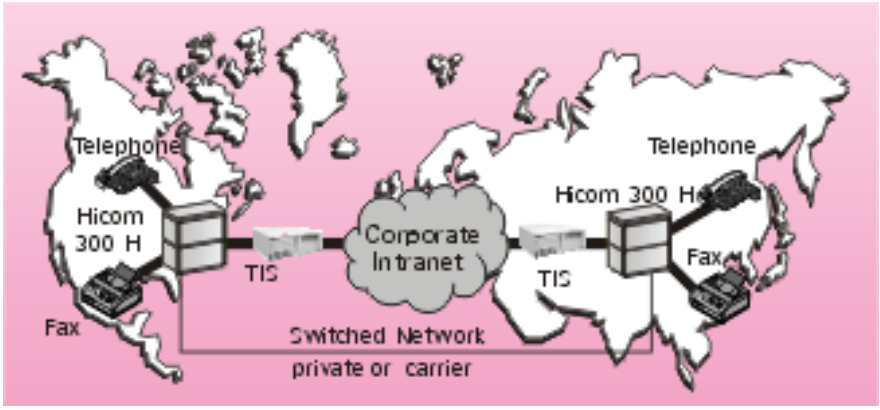
The Hicom 300 H can be incorporated into ATM networks using an integrated ATM trunk module and with QSIG via a compliant broadband access node. This enables homogeneous Hicom 300 H networks to be implemented over ATM VPNs on the basis of ATM dedicated connections or ATM dial-up connections (SVC). All Hicom 300 H features that can be used throughout the network are supported.

Interworking functionality allows ISDN and ATM users to employ Basic Call features and to communicate with each other. Connectivity to ATM carrier networks is thus already provided today.

Hicom Xpress ATM Hub supports optiset E telephones and other terminal equipment connected via adapters, such as fax. The ATM hub can be connected directly to the Hicom 300 H or to an ATM switch via dedicated ATM connections.

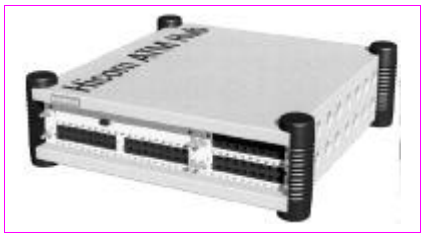
The modular Hicom Xpress ATM Hub supports up to 64 x $U_{p0/E}$ interfaces, i.e. for up to 128 users via an optiset E master-slave adapter. Up to 32 (virtual) $U_{p0/E}$ interfaces are supported for each ATM trunk module of the Hicom 300 H, which means up to 64 subscribers can be connected with the adapter.

Thanks to ATM technology, Hicom Xpress ATM Hub spans ''any'' distances between terminal equipment and the Hicom 300 H communication server. This means that working groups such as call centers and call pick-up groups that are spread out over great distances can easily be implemented. Network-wide user relocations are also made easier as they can be carried out using ATM Network Management.



Telephony Internet Server (TIS)

HiPath Teleworking Solutions



The ATM trunk modules and Hicom Xpress ATM Hubs are linked via ATM with 155.52 Mbit/s monomode or multimode optical fiber cables. Hicom Xpress ATM Hub can be operated either as a stand-alone system or in a 19'' cabinet.

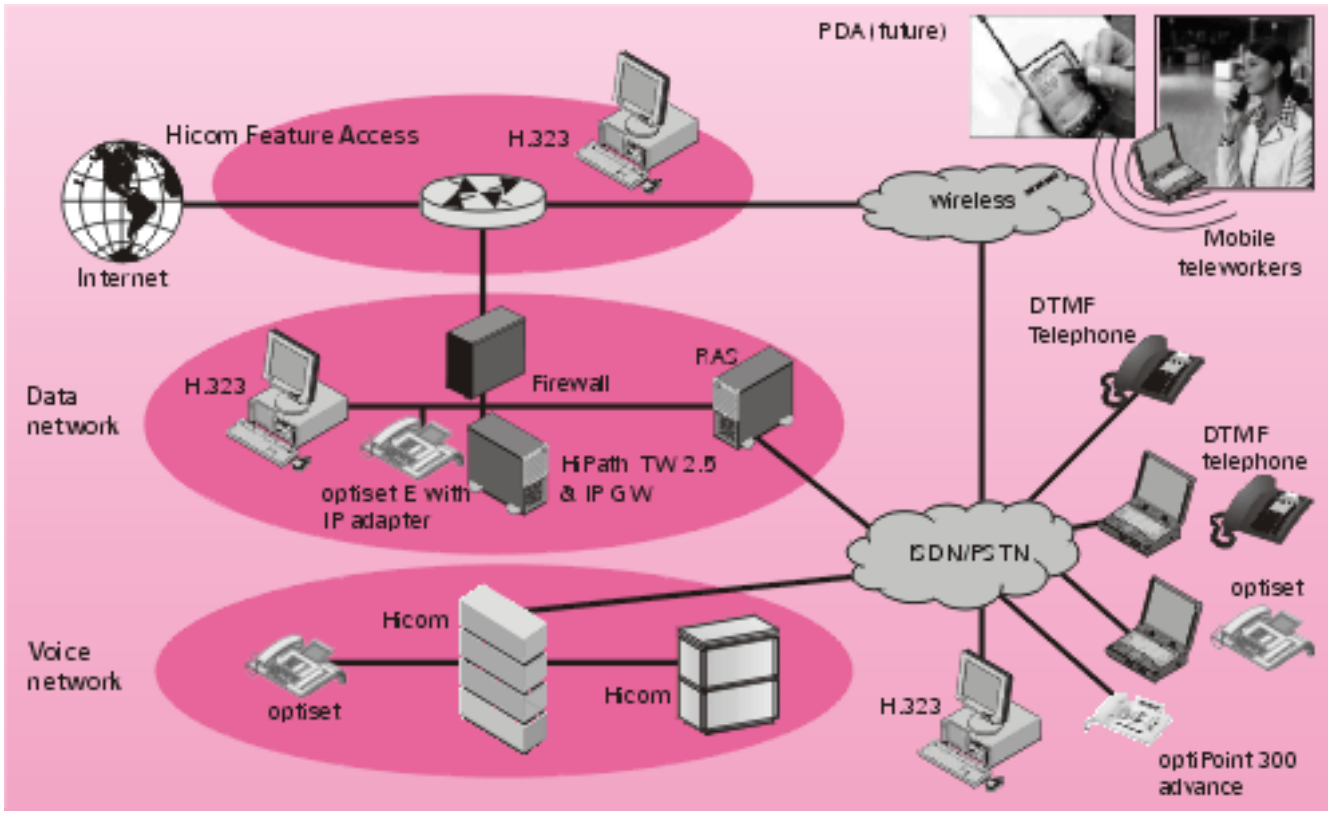
HiPath Teleworking 2.5 Solutions for Enterprise Mobility

Enterprise mobility solutions with Hicom 300 H Teleworking open up a whole range of new opportunities for optimized communication. With Teleworking, remote users have access to all of the Hicom features as well as to the data infrastructure. Whether at a home office, on-the-road, at a remote-site or traveling, mobility is afforded (via ISDN, mobile networks, or analog connections) with remote telephony feature access (with any standard telephone, PC, notebook or GSM cellphone) to important Hicom 300 H voice and data functions. Protection against misuse of features is guaranteed with the LAN access infrastructure Firewall, or other components as required.

The mobility features offered by Teleworking include:

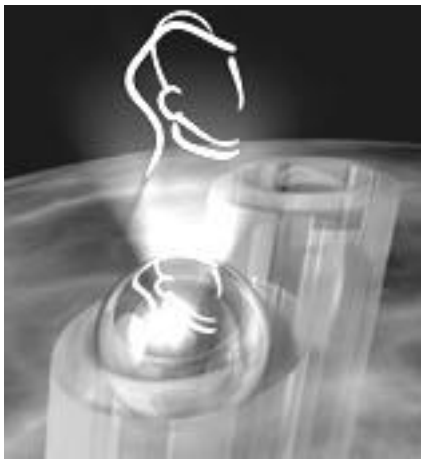
- Single number service with call take-back
- Ring monitoring
- IVR-controlled call routing
- Forwarding of incoming fax messages to Xpressions, and connections in progress to an alternating destination
- Follow-me, Find-me
- Broadcast

Teleworking enables shared-desking, efficient internal and external communication and optimizes human resource management.



HiPath Teleworking Solutions

Classic Communications, Customer Care and Converged Solutions – for Voice, Video, Data, Fax and Web



Award Winning Call Center and Customer Care Solutions

The core of communications critical business is the competitive edge achieved through maintaining customer contact, being reachable at all times and being enabled to respond to customer demands, enquiries and requests in the most immediate manner. These factors are critical in creating customer loyalty, engaging new and existing business and optimally managing high-volume call centers. Customer care requirements range from the most simple automatic call distribution solutions to the most complex converged applications that enable companies to dynamically respond to the demands of their customers. Siemens' customer care solutions are oriented to meeting today's call center requirements with unified building blocks for evolving customer relationship management.

Customer Care Center Solutions - with HiPath ProCenter Entry, HiPath ProCenter Standard and HiPath ProCenter Advanced

Call distribution systems are ideal for any area in which a large number of incoming calls have to be distributed automatically and uniformly to groups of people responsible for dealing with them (e.g. telemarketing, customer service, order reception departments). Competitiveness is critical as well in the fields of information and reservation services. The Hicom provides extremely powerful and responsive customer care solutions.

HiPath ProCenter Entry complements the Hicom by ensuring that all calls are answered promptly and efficiently and providing a cost-effective basis for establishing call centers to handle higher volumes of incoming calls. With the supervisor workstation running under MS Windows®, the supervisor is able to obtain all the information required to exercise optimum control at all times.

A highlight of HiPath ProCenter Entry is the BusinessView Composer which enables the customer to flexibly compose individually tailored call center scenarios, without specialized knowledge of the system, thanks to the user-friendly interface and modular design. BusinessView Observer enables simple or detailed real-time observation of the call center. This makes optimal supervision of business-related targets possible, enabling the supervisor to respond quickly to critical situations.

HiPath ProCenter Standard/Advanced further enhances customer care with skills based routing and planned media integration, enabling significant business benefits that today's call centers demand. ProCenter Standard/Advanced offers an extensive suite of client/server products that provide flexible design, prediction, monitoring and management of virtual group call centers that foster customer and agent retention. The virtual group routing capability is the heart of the solution, which intelligently determines the best possible match between a caller and an agent on a call-by-call basis. It identifies caller requirements and searches for available agents who best meet the caller profile by nature of the agent's personal skill and preference résumé. With ProCenter Standard/Advanced, all agents are available for all calls without segmenting the call center in fixed groups. Caller requirements can be identified from network information (ANI and dialed number ID), database information, customer responses to call prompts from an Interactive Voice Response system, or a voice processing application - even via input through a live call screener. A virtual group is hence instantly constructed from agents whose résumé most closely matches the caller's needs, with up to 100 criteria per call and 100 criteria per agent. This offers greater control when determining the most effective allocation of call center resources while servicing callers more efficiently.

With **HiPath Teleworking and HiPath ProCenter**, call center agents are further enabled to work at home or at remote locations. This makes the most of managing available resources and personnel.

Classic Communications, Customer Care and Converged Solutions – for Voice, Video, Data, Fax and Web

optiClient 370/380 Contact and Call Center Solutions

optiClient 370/380 is a Voice-over-IP (VoIP) solution for the corporate LAN. The integration of services and applications using VoIP provides for unified functionality with computer telephony (CT).

Controlling multimedia distribution sharpens business processes for the user with the functional integration of voice, e-mail, fax, web and data. This increases productivity and availability, thereby boosting customer satisfaction.

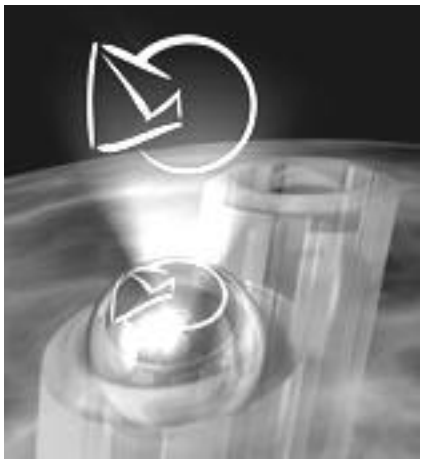
The IP solutions offers an innovative environment for customer care solutions with regulation of multimedia distribution and routing of information. This encompasses voice, e-mail and fax messaging. Video messaging is also planned. In a contact center, once an Agent is free the queued e-mail or the next fax document to be processed is automatically presented. With Multimedia Call Processing (MCP) various routing criteria are possible, such as skills-based, history-based or time-based routing. The distribution of the information is based on an open relational database that can be freely configured for any type of processing. Through this type of implementation, the multimedia information distribution becomes a unified part of the complete dynamic workflow in the communications environment. Typical call center applications such as Agent Supervisors and IVR are naturally supported.

HiPath Xpressions

With HiPath Xpressions, modern organizations are enabled to be proactive, flexible and fast.

HiPath Xpressions combines voice, fax, e-mail services and the short message service (SMS) on a Windows-NT platform to form a unified messaging system. The modular, scalable client-server architecture makes it possible to adapt to communication requirements within the company in the most efficient way. Open standards, integration into existing data processing and telecommunication environments, universal access to messages by PC and telephone as well as secure access via ISDN, LAN and Internet guarantee flexibility and improved internal and external communication.

Unified services, user packages, data processing integration (SAP R/3, MS Exchange, Lotus Notes, etc) as well as software-only solutions or approved complete systems are available for selection, providing tailor-made solutions for all requirements - ranging from entry-level functions through to applied network communication solutions.

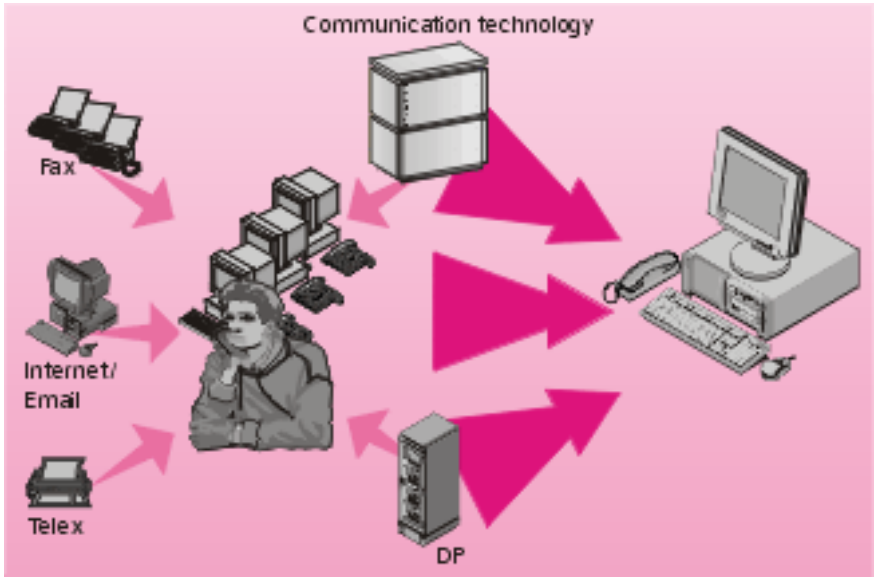


Hicom Display Telephone Book (DTB)

The Hicom DTB provides access from digital telephones to a central company telephone directory. The last 20 incoming and outgoing calls are stored in a call journal. A number can be dialed directly from the directory and the call journal. The DTB uses the optiset E display to access a dial-by-name directory, providing users with fast and easy access to up-to-date internal and external directory information. This not only improves productivity and efficiency, it also reduces the cost of updating, publishing and distributing directory information.

Hicom Trading 300

Hicom Trading 300 is an ISDN application package for dealers in foreign currency, stocks and shares, futures, precious metals, etc. with solutions for the special requirements of banks, stock exchanges and broker's offices.



Flexibility for Customer Care Solutions

Communication Services– Availability

Hicom Executive 300

Hicom Executive 300 combines the features of a telephone system and an enhanced director's facility into a single solution designed to meet the most demanding communication requirements. With multi-line functionality, network-wide direct station selection functionality, large conferences, line switching and individual programming, the Executive 300 is suitable for a director, for top management and for any big company with a large number of executive/secretary and team applications.

Hicom Dispatcher 300

Hicom Dispatcher 300 is an ISDN application package designed to meet the special needs of:

- control centers and load controllers in the networks of power supply utilities
- control centers in the networks of security authorities or organizations such as rescue services

Hicom Trading E

Hicom Trading E is the latest evolution of the Trading 300. The new ergonomically designed terminal TRADEBOARD E combines a color touch-screen and keys to provide an extremely user-friendly interface. Trading E is a new generation of trader systems with an innovative architecture, ergonomic user interface and excellent networking features - all of which ensure optimum communications that give banks, exchanges, traders and brokers a decisive competitive advantage.

Digital Alarm and Communications Server (DAKS)

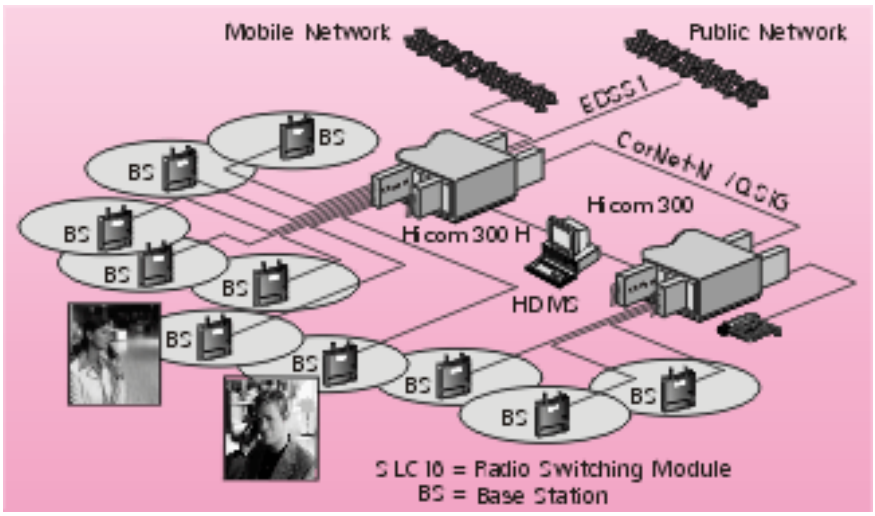
DAKS enables information, warnings and alarms to be issued and conferences to be effortlessly held in large communications environments. Users can also be contacted quickly within the enterprise network and carrier networks. DAKS together with Hicom facilitates and accelerates communication, making contact more efficient and taking control of tedious routine tasks. The rich feature set of the Hicom with optiset E and cordless E (e.g. alerting tone, override, display output) are available in a Hicom homogeneous network together with DAKS.

PhoneMail

PhoneMail is a voice memory system that makes enables storage, retrieval and distribution of voice messages via personal voice mail-boxes. With the ''automatic attendant console'' and the ''automatic information and ordering service'', Phone Mail provides highly efficient audiotext applications as well.

Hicom cordless E

Hicom cordless E enables campus mobility with the same optiset E features on the cordless telephone. cordless E offers mobility solutions for constant availability. Higher levels of enhanced telephony are achieved with features such as selective availability and ''Follow-Me''. Mobile employees such as service personnel can be quickly and reliably informed/alarmed about crisis, failures and emergencies. The messages are displayed immediately on the cordless telephone and can be retrieved at any time.



Campus Mobility with cordless E

Computer Telephony (CT) / Computer Telephony Integration (CTI)

Communication Solutions for Hotels and Health Care Institutions

Caracas Link

Caracas Link innovatively links hotel data processing systems to Hicom 300 H.

Caracas Inn

Caracas Inn is a branch solution for the Hicom 300 H for small hotels, providing main hotel features such as check in / out, room invoicing, and mini-bar management.

HiMed

HiMed is a branch communication solution for health care services which links existing management computers with Hicom 300 H enabling data and information exchange.

Hicom cordless E - Solution for Health Care

With cordless E, availability and increased reaction of nurses and personnel in hospitals and retirement homes is possible through innovative features like NurseAlert, Emergency Call, Service Call, Automatic Callback in the room and also direct access on the cordless E telephone.

Open and standardized CT and CTI interfaces such as CSTA, Microsoft TAPI, IBM CallPath, and JTAPI are the key to enabling the integration of Hicom 300 H communication services and multimedia, office or data processing applications. Even more tailored and productive work processes and enhanced call centers with seamless solutions are enabled through the applications and services available with CT and CTI.

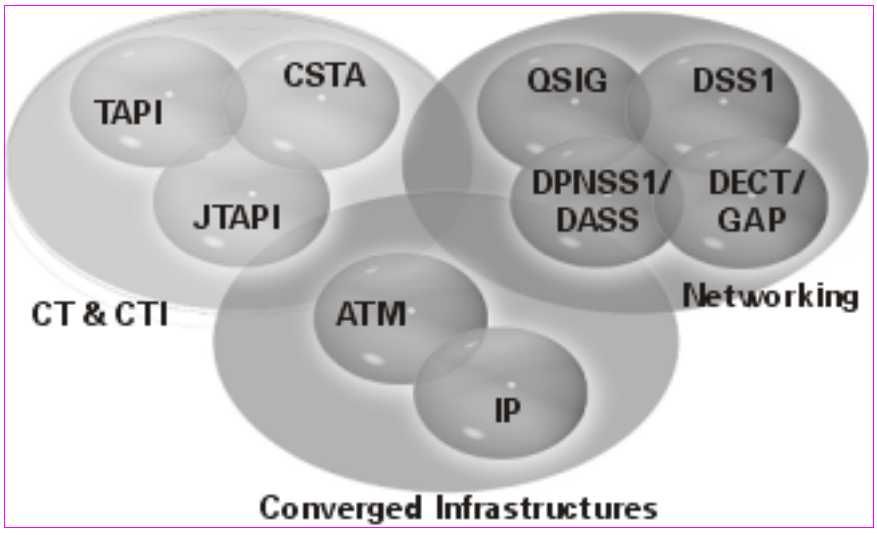
Most workplaces in the communication server environment consist of a phone and a workstation. Hicom 300 H enables the PC to control the phone to dial names by using PC directories, accept incoming calls by mouse and screen, provide data files on screen that are assigned to a caller's ID and many other functions that save time and money. The support of open interfaces offers development support for software houses that offer a variety of CTI applications starting from simple dialing, up to a customer's specific call center application. A number of service providers are available for various configurations based in each case on telephones, client/server constellations or LAN softphone.

Platforms

- CallBridge TA
  for phone-supported applications
- CallBridge TW
  full Hicom feature support at public ISDN Teleworker connection
- CallBridge for Workgroups-CSTA V4.1
  CSTA offers a standardized open interface for applications (such as HiPath ProCenter Standard/Advanced) and partners

Applications

- SimplyPhone 2.1
  Communication manager that can do much more than telephoning and which offers CTI for every desktop.
- SimplyPhone for Outlook 2.0
  Ideally suited for workstations that use Microsoft Outlook as the universal communication and organization tool.



Support of open interfaces and standards

Applied Infrastructures

Standard protocols and open interfaces are the key to evolving voice-centric switched networks to converged infrastructures. Hicom 300 H makes it possible to set up corporate networks in one location, throughout Europe, or world-wide by linking several systems via dial-up and dedicated connections. Further flexible networking alternatives include virtual private networking (VPN) over ATM, IP or ISDN - also with QSIG tunnelling of the CorNet NQ features.

CorNet NQ is Siemens' standards-based signaling protocol for private network solutions. CorNet NQ is aligned with the international QSIG private network protocol for all features that are common between the two protocols. CorNet NQ transmits Hicom features and central services throughout the entire infrastructure.These features enhance intra-site communications, improve customer service, thereby enabling flexible working practises.

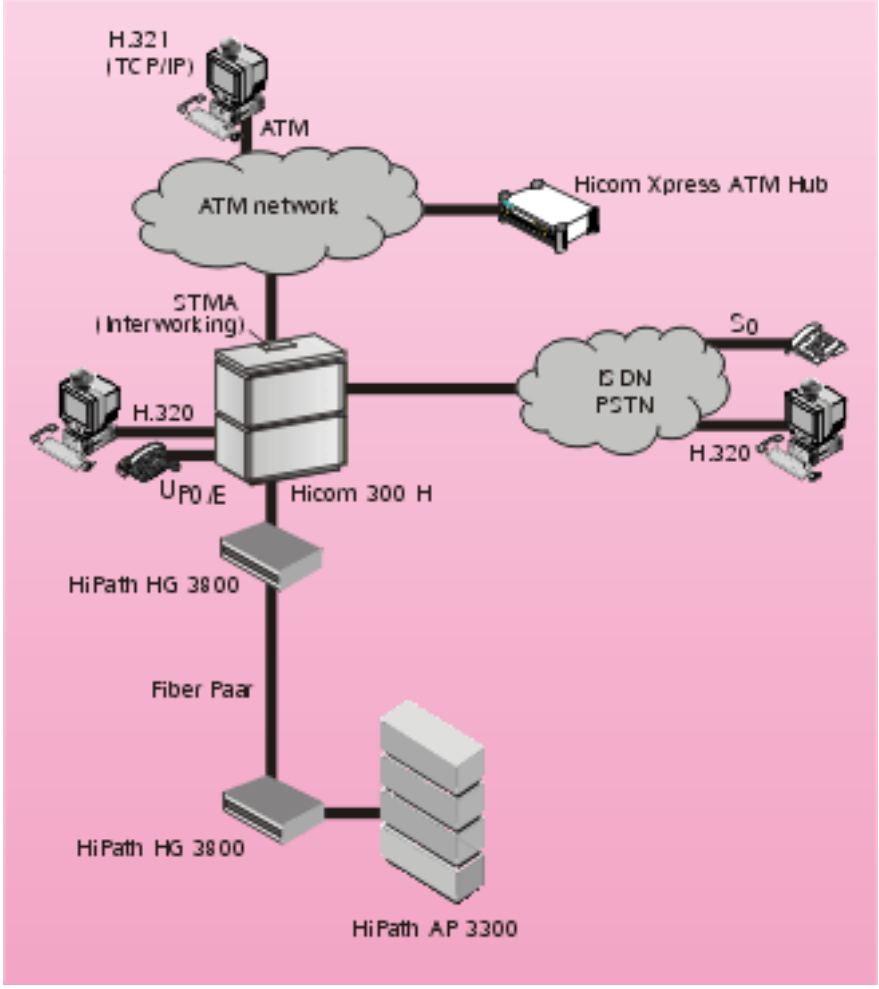
The most significant advantages of homogeneous Hicom 300 H networking include the following:

- central administration with Hicom Domain Management Service (HDMS)
- use of central services (e.g. Phone-Mail, HiPath Xpressions, central attendant services)
- enhanced classic voice features such as call pick-up group, call park, directed call pick-up, call forwarding on no answer after transfer, callback on busy and callback - no answer
- charge-optimized use of the corporate network through least cost routing (LCR):
  - use of the corporate network for outside calls (break-in and break-out)
  - time-based routing to different carriers
  - central administration of all LCR data via HDMS, local and network-wide registration of all outgoing, incoming and internal calls
- use of integral voice compression
- applied VPN (via ATM, IP, ISDN, QSIG)
- ATM Networking
- IP integration

The Hicom network makes it possible to connect systems from other manufacturers via the QSIG protocol, or in selected countries the DPNSS1 protocol, for heterogeneous networking with tunnelling of CorNet NQ for end-to-end feature transparency. Existing systems can also be connected via analog interfaces.

Shelves distributed via Fiber

Standard Hicom expansion shelves HiPath AP 3300 can be distributed to remote locations via fiber. The Hicom 300 H and the HiPath AP 3300 are connected to a HiPath HG 3800 each. These HiPath HG 3800 are connected via fiber cable. Remote users will be treated as though they are connected to a HiPath AP 3300 at the main Hicom site. This especially means that all ports of the HiPath AP 3300 can be fully integrated in central applications (e.g. as call center agents). Administration of the remote ports including Moves, Adds and Changes can also be done centralized.



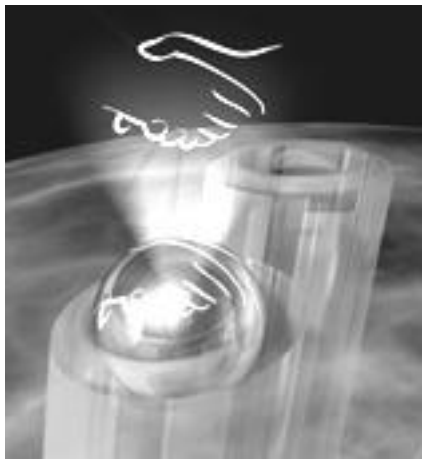
Hicom Domain Management Service (HDMS)

Integrated Voice Compression

The integrated voice compression module (VCM) can be used in homogeneous Hicom 300 H networks with digital dedicated lines. With it, optimum use can be made of leased lines or ATM lines in networks. Voice calls are compressed by a factor of 4 to 16 kbit/s. This compression rate and the compression method used produces the highest possible voice quality. All network-wide features are retained. The delay caused by voice compression is so small that it cannot be detected by the user. In Hicom 300 H networks, compressed voice channels can be switched without multiple compression and decompression. This means that voice quality is kept at the highest level, even in complex infrastructures.

High-speed Access

Hicom 300 H has a LAN interface (TCP/IP) for system management, service and CTI applications. This interface is available as integral LAN access, or via an integrated module. With the integrated module, connections to remote systems and LAN-LAN links can be set up. This is also possible via the integrated ISDN router functionality on the same card. Depending on the application, the usable transmission bandwidth in the LAN range is 10 Mbit/s and in the WAN range, within the function of an ISDN router, up to 30 x 64 kbit/s. A built-in firewall concept checks both the source IP address and the destination IP address as well as the ISDN numbers at the WAN transition, thereby ensuring the security of the data. In addition, an adjustable callback function can be used to increase data security.



HDMS is the universal instrument for the management and administration of complex infrastructures and stand-alone applications. Operational functions can be performed quickly and easily with a high degree of security.

The communication infrastructure is always prone to change, be it for in-house moves, authorization access changes, transfers, workplace expansion, or new employees. The quicker that necessary changes can be executed, the better it is for both internal and external communication. There is nothing more annoying than an out-of-date phone number, an incorrect direct-dial fax number, or a missing e-mail address.

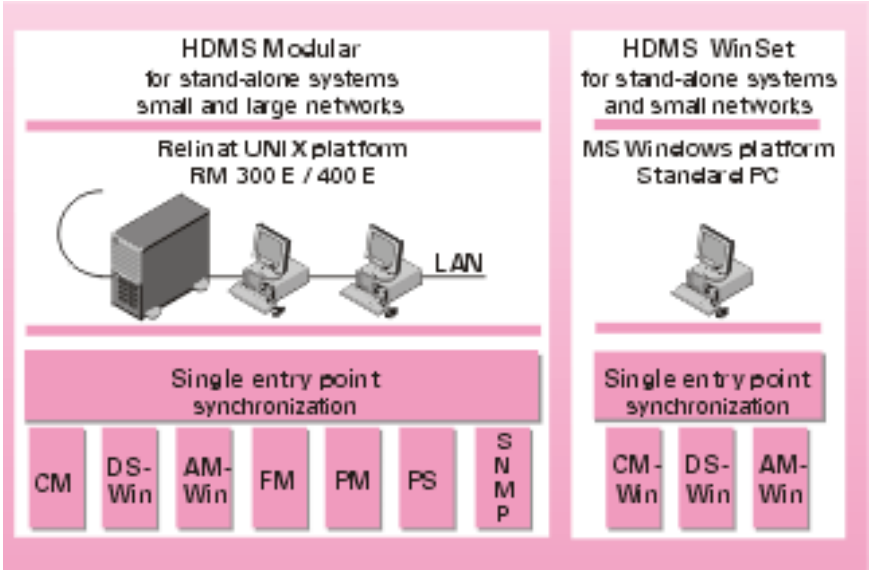
The HDMS is a powerful solution that optimizes in-house communication processes. It's centralized data entry allows all database information to be updated in a direct and time-saving manner.

HDMS offers services that can be configured in a modular way to provide easy administration of Hicom 300 / Hicom 300 H stand-alone systems and homogeneous corporate networks with the following modules:

- Configuration Management (CM) including LCR
- Directory Service (DS-Win)
- Accounting Management (AM-Win)
- Performance Management (PM)
- Fault Management (FM)
- Partner Interface (API)
- SNMP Proxy Agent

For incorporation into corporate network management systems, access is available on the basis of SNMP (Simple Network Management Protocol).

HDMS is an easy-to-use network management system for customers operating larger enterprise networks. All management tasks can be accessed from a single focal point. This provides faster service responses, lowers operating costs and increases network availability. HDMS also improves levels of customer service with shorter response times to network failures and configuration change requirements with synchronized network data.



Hicom Domain Management Service (HDMS)

System Management with HDMS WinSet

HDMS WinSet provides a user-friendly system management solution designed for use on individual Hicom 300 H systems and in small networks. This management package simplifies moves, adds and changes and LCR administration. It supports three applications:

- CM-Win Configuration Management based on Windows
- AM-Win Accounting Management based on Windows
- DS-Win Directory Service based on Windows

DS-Win

DS-Win enables fast and efficient call forwarding with the enhanced attendant console AC-Win, or for workstations with optiset E. Directory data are stored in Access database tables. All tables and screen layouts can be customized on site to suit the given company organization. Data can be administered directly in DS-Win. In combination with HDMS, it is integrated in the single entry point concept for directory data. Whenever changes are made to the central database of the HDMS, DS-Win data is automatically updated.

Corporate Directory

The corporate directory is a company wide communications directory. It enables all communication paths to be viewed at a glance and allows access from any place in the world at any time. The process-controlled synchronization of different software applications (e.g. HDMS, Mail servers, personnel administration, etc.) with the corporate directory automatically keeps all entries up-to-date.

The directory can be accessed via CTI applications (e.g. SimplyPhone), Internet/Intranet or mail client (e.g. MS Outlook) via standardized interfaces (e.g. LDAP, MAPI). In conjunction with the HDMS, user data can be synchronized with a customer specific corporate directory and vice versa (e.g. based on a X.500 directory).

Call Traffic Measurement (CTM)

CTM is used for measuring call traffic for individual systems and systems within corporate networks. It provides transparency for the call situation, and optimizes the use of both technical and personnel resources.

Hicom Teleservice (HTS)

HTS links the Hicom integrally to the Siemens diagnostic center in order to provide quick-response for remote maintenance, remote administration and the regular back-up of system data and software.

Attendant Console

The attendant console is used by an attendant to set up internal or outside calls. It may consist of either an attendant telephone, an enhanced attendant console, or the AC-Win attendant console.

AC-Win provides a familiar and easy-to-use Windows interface for the attendant. It significantly enhances operator productivity and customer satisfaction with improved call handling. It can be used to access the electronic telephone directory DS-Win and timer-based overflow and extended priority classes with flexible priority assignment for every call type greatly enhance operator call routing capabilities

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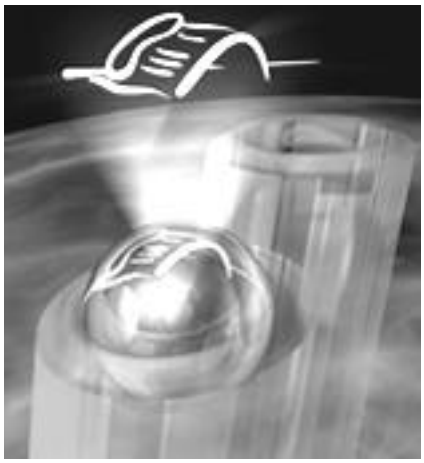
Attendant Supervisor Console (ASC)

The ASC is a PC application that optimizes the operator environment, enabling a supervisor to monitor past and current call situations at the attendant consoles.

Desktop Productivity



optiset E telephones

The award-winning Hicom optiset E range of digital terminals provides entry-level digital telephony with various levels of functionality and connectivity for data devices. The optiset E range of telephones accent the Hicom 300 H applications, e.g. any user can access the telephony features of the Hicom 300 H at any location using the common extension user interface. With three easy-to-use buttons, communication could not be simpler: OK, Forward and Back - the keys to simple, context-sensitive, dialogue-oriented communication.

The display suggests the appropriate action for every situation. This can be activated by pressing the OK key, or using the Forward or Back key to select a different function from the menu. Callers can be included in a conversation, calls transferred on to someone else - and all without memorizing a complicated sequence of buttons or feature access codes. Each function is as simple as the next.

This allows each member of staff to benefit from the full scope of the communication server, improving customer relations and saving time and money. Additionally, optiset E terminals can be linked with other information and communication technologies, such as with a PC for CTI, with video communication equipment, or with a second phone. Simply plug an adapter into the phone!

The following optiset E terminals (twin-channel $U_{p0/E}$ interface) are available to meet various workstation requirements:

- optiset E entry - (low-priced entry into digital technology)
- optiset E signature - (chip-card terminal)
- optiset E basic - (basic terminal for voice and data communication, 1 bay option)
- optiset E standard - (comprehensive range of features optimized for telephony)
- optiset E advance, optiset E advance plus and optiset E advance conference
  (Professional equipment for voice and data communication, 2 bay options)
- optiset E memory - (top-of-the-range model for high-volume communications, 2 bay options)

The language for user prompting can be set individually for all optiset E telephones with display as long as Hicom 300 H has been appropriately configured. optiset E terminals are available in gray and black.

optiset E options

optiset E key module

Add-on device for optiset E telephones (16 function keys with LED) with two levels for name keys. Up to four devices can be connected to a single optiset E telephone

optiset E signature module

The optiset E signature module is a chip-card reader add-on device for optiset E telephones. It is a simple way of converting an existing telephone to operate with a chip card without the need to change the terminal.

optiset E key module
optiset E signature module
Adapter

Software Marketing Packages

Adapters

A wide range of optiset E adapters are available that make it possible to adapt the telephone to the requirements of the respective workplace.

Available adapters include the following:

- optiset E phone adapter - (for connecting an additional telephone)
- optiset E analog adapter - (for connecting an analog terminal, such as a group 3 fax device)
- optiset E teleworking adapter - (connection of optiset E with a remote teleworking workstation)
- optiset E control adapter - (for CTI applications and connection of a headset)
- optiset E data adapter
- optiset E ISDN adapter (for connecting ISDN S_0 terminals or video equipment)
- optiset E headset adapter (for connection of headsets)
- optiset E headset plus adapter (for connection of headsets and voice recorder)
- optiset E acoustic adapter (for connection of external microphone and loudspeaker)
- optiset E contact adapter (for connection of external power circuits e.g. busy lamps, signaling)
- optiPoint IPadapter for connecting optiset E telephones to LAN networks

Operating Software

The operating software package is used to offer the rich set of basic features and also for start-up of the Hicom 300 H system. The feature set is immense and includes such features as:

- call detail recording for outgoing, incoming, internal and cross-network traffic
- call log for incoming and outgoing journal of calls
- operation with/without direct inward dialing
- direct station selection key function
- release/block call waiting
- parallel ringing
- call forwarding
- call pick-up groups
- data security for optiset E menus
- service features (with intelligent service functions such as: controlled line and trunk select, trace, inherent intelligent fault management, web-based user interface for service functions such as remote software supply, local alarm agent, inventory management, remote access)
- inherent interface support for innovative and fast remote access such as TCP/IP, HTTP, FTP, and PPP (V.24 asynch).

Telephony Plus

Telephony Plus comprises standard telephone features such as

- redial
- speed calling system/individual
- callback
- three-party/eight-party conference
- toggling
- do-not-disturb
- call waiting and prevention of call waiting
- override and prevention of override
- hot line
- mobility features such as personal identification number (PIN) and Hicom relocate (relocates subscribers from the terminal)

Telephony Plus also enables attendant consoles (such as AC-Win) to be connected and executive/secretary work points to be implemented.

Key 300 E

Key 300 E is integrated multi-line appearance functionality in the Hicom 300 H V1.0 system software for the optiset E. It includes enhanced team features such as:

- call bridging
- automatic/manual privacy
- multi-line appearance and access to multiple lines
- simultaneous hold of key lines
- exclusive and manual hold
- LED and ringing/ringer cut-off
- I-Use indication of line
- recalls

CDR Enhancements

Call Detail Recording Enhanced records additional detail for all call phases, durations and intervals for outgoing, incoming, internal and call routing for all users including attendant console operators, pick-up groups and hunt groups, also enabling network-wide correlation of records and call paths.

CTI Solutions

CTI packages make it possible to integrate the Hicom 300 H telephony functionality and associated networks with information systems and applications in a wide variety of ways. It provides a powerful base of CTI applications throughout the company. These applications support, among other things, the use of automatic call distribution (ACD), display telephone book, or measurement applications such as call traffic measurement (CTM) for recording and optimizing the utilization of the overall system and components.

Packages for ATM Components

The following software packages require the STMA module for connection to ATM networks.

Software Marketing Packages

ATM Networking

ATM Networking supports all Hicom features over ATM networks and over fiber optic links. The ISDN signaling is transparently tunnelled over the ATM network. With ATM Networking, Hicom 300 H systems can be connected to an ATM network very simply. Through this the cabling is greatly simplified as well as the overall network configuration which enables a logically fully meshed network of Hicoms.

ATM Networking V1.0 enables up to 4 x S_2 trunks (e.g. up to 4 routes) to be emulated with each ATM trunk module over dedicated connections (PVC, Permanent Virtual Connection) with up to 120 B-channels. The transport is implemented with the standard Circuit Emulation Service (CES). PVC supports all Hicom protocols (e.g. QSIG; CorNet NQ, DSS1).

ATM Networking V2.0 offers additionally ATM dial-up connections (SVC, Switched Virtual Connection). SVC dynamically allocates the bandwidth in the ATM network according to need. All CorNet NQ features are supported. Up to 64 directions and 128 B-channels can be configured.

Both PVC and SVC can be simultaneously used on the same module. This enables cost savings for networks where the permanent traffic is routed via PVC and the peak traffic over SVC.

ATM Interworking

This function supports the interworking between ATM/ISDN over dial-up connections (SVC, UNI 4.0) by mapping the ISDN signal to the ATM signal and vice versa. The ATM network then controls the routing of the voice connections. With ATM Interworking V1.0 Basic Call is realized. This enables communication between Hicom 300 H systems and also between ISDN/ATM subscribers for communication by fax, telephone and video.

Voice Compression

This software package enables the integrated voice compression module (VCM).

Trunk/Networking

Trunk/Networking on the one hand allows the Hicom 300 H to be connected to or operated via the operator network, and on the other, permits the Hicom 300 H to be networked with any communication system or via VPN. Both homogeneous networking of Hicom systems and the integration of other vendors' systems in the network are possible. CorNet NQ is supported for networking Hicom 300 H systems. The QSIG protocol is also available for heterogeneous infrastructures. In selected countries, DPNSS1 is also available with the CorNet NQ-DPNSS1-Gateway (CDG) V4.0.

Enhanced Trunk/Networking

As part of homogeneous networking or connection to the operator network, the Trunk/Networking or ATM Networking/ Interworking package can be expanded to include the following features:

- Least Cost Routing (LCR)
  LCR ensures that the most economical route is selected. Calls area kept within the Hicom network for as long as economically viable. On transfer to the dial-up network, the most favorable network provider is selected.
- Time-Based Routing
  Routes connections on a scheduled basis.

Private Network Emulator (PNE)

This feature supports the use of the integral PNE for enhanced telephony with the full functionality of CorNet NQ, QSIG or CorNet N via dial-up lines. PNE is an integrated or an adapted solution which enables a VPN to be established in a cost-efficient way. All CorNet NQ, QSIG and CorNet NQ features are supported throughout the network (homogeneous or heterogeneous) using switched connections.

Hicom cordless E

The integrated mobility solution cordless E enables mobile communication with the optiset E features on the cordless handset. The modular, expandable system architecture offers constant availability for up to max. 9,600 mobile subscribers. The cordless line card is required for this feature with the mobility software license for base stations.

HiPath ProCenter FlexRouting, HiPath ProCenter Composer and HiPath ProCenter Observer

This software enables the call distribution system integrated in Hicom 300 H to be used with the specific routing functions as well as consoles for up to 750 active agents and 50 supervisors. This solution supports source/destination based routing. Calls simultaneously queue in up to 16 ACD-Groups. Per system, up to 15,000 ANI/DNIS numbers, 4,000 agent IDs and 2,000 ACD telephones can be configured in 255 ACD groups.

The supervisor applications BusinessView Observer/Composer enable the graphical display of real-time and historical reports plus easy configuration of the call center. (supports Windows 95/ 98/NT4.0)

Hicom Trading

For using the products Trading/Dispatcher/Executive, the trading module is required.

Hicom Trading E

For implementing the new trading system Hicom Trading E, the trading E module is required.

Hicom Teleworking

This package supports the integrated Hicom Teleworking functionality for enterprise mobility.

Technical Data

Hicom 300 H Configuration

Variant	Number of Shelves /Stacks	Max. Capacity
Hicom 310 H	1 box	96 ports
Hicom 330H	1 - 4 shelves, 1 stack	240 - 1392 ports
Hicom 350H *)	1 - 16 shelves, up to 4 stacks	384 - 5760 ports

*) includes common control shelf

Power Supply Voltage

Single Phase	230 V, ±10%
Three Phase	380 V, ±10%

A (buffered) 48-volt direct current power supply can also be used.

Environmental operating conditions

Air temperature in operation (air cooling)	+5 ºC to +40 ºC
Relative air humidity	max. 85%

Dimensions (W x H x D in mm)

19” unit for Hicom 310 H	435 x 444.5*) x 405 *) = 10 U
Hicom 310 H box	488 x 550 x 515
Hicom 330 H/ 350 H Shelf	773 x 645 x 515
Hicom 330 H / 350 H Stack **)	773 x 1845 x 515

**) one stack of 4 shelves

Weight

Hicom 310 H box	max. 30 kg
Hicom 330 H Stack*) *) Hicom 330 H Stack of 4 shelves	max. 180 kg
Hicom 350 H Stack*) *)Hicom 350 H Stack with 4 Stacks and 16 Shelves and 2 Power Boxes	max. 720 kg
Battery Manager	max. 80 kg
Power Box	max. 80 kg

System interfaces for exchange, networking, remote access, system and subscribers

Trunks

- S_0 (Basic Access)
  Four-wire access to the ISDN network.
  – 2 user channels of 64 kbit/s each
  – 1 signaling channel of 16 kbit/s
  – Transmission speed of 144 kbit/s
  – ETSI-ISDN (DSS1) or 1 TR6 protocol
- S_2 (Primary Rate Interface)
  Four-wire access to the ISDN network.
  – 30 user channels of 64 kbit/s each
  – 1 signaling channel of 64 kbit/s
  – Transmission speed of 2048 kbit/s
  – ETSI-ISDN (DSS1) or 1 TR6 protocol
  – DPNSS1 in selected countries via CDG V4.0
- Analog
  All analog trunks (main station interface / pulse signaling system) are supported.
- Integral Planned Serviceability
  - transport and network protocol TCP/IP
  - asynchronous protocol PPP
  - file transfer protocol FTP
  - web protocol HTTP
  - V.24 asynch/synch access
  - access via Ethernet or fast modem

Networking interfaces

- S_0/S_2
  The following protocols are supported:
  CorNet N, CorNet NQ, QSIG, PSS1, E&M, CAS, MFC
  (DPNSS1 with CDG in selected countries)
- Analog: multiple protocols
- ATM 155 Mbit/s (STM-1/STS-3
  The following protocols are supported:
  CES (Circuit Emulation Service), ATM/ISDN Interworking with UNI 4.0, CorNet NQ, QSIG

Glossary

User interfaces

- $U_{p0/E}$
  Twin-wire interface for connecting optiset E telephones and attendant consoles
- S_0/S_0 bus
  S_0 connection for ISDN terminals, e.g. ISDN PC, ISDN fax (group 4).
- S_0 bus connection for up to 8 ISDN terminals, incl. Hicom telephones. Connection of terminals to data interfaces (e.g. V.24) via DCI.
- a/b
  Connection of analog terminals and equipment for voice, fax, videotex, and data services, for example: standard telephones (e.g. euroset, Gigaset), coin or card telephones, devices (e.g. answering machines, entrance telephone, loudspeakers, paging system, dictation and announcement equipment).
- H channel
  Connection of terminals in compliance with the H channel standard. The interface is connected to the terminal via S_2.
- ATM 155 Mbit/s (STM-1/STS-3)
  Optical interface for connecting ATM clients and Hicom Xpress ATM Hub with $U_{p0/E}$ interfaces for optiset E telephones.

The following user interfaces continue to be supported:

- U_{200}
  Connection of Hicom set telephones, attendant terminals, and data terminals with V.24 interface via DCI.
- U*
  Connection for VMS (as a stand-alone solution)
- U_{P0}
  Connection of a PNT network termination to S_0 bus or Hicom set500 telephones.
- U_{2B1Q}
  Connection of a PNTQ network termination to S_0 bus or optiset E distance adapters (range extended up to 8 km).

ACD	Automatic Call Distribution
ACL	Applications Connectivity Link
ATM	Asynchronous Transfer Mode
CT	Computer Telephony
CTI	Computer Telephony Integration
CTM	Call Traffic Measurement
CSTA	Computer Supported Telecommunications Applications
DSS1	Digital signaling System 1
DPNSS1	Digital Private Network signaling System 1
DTB	Display Telephone Book
HDMS	Hicom Domain Management Service
IP	Internet Protocol
IVR	Interactive Voice Response
JTAPI	Java TAPI
LAN	Local Area Network
LCR	Least Cost Routing
LDAP	Lightweight Directory Access Protocol – based on TCP/IP for accessing directory services.
MCP	Multimedia Call Processing
PNE	Private Network Emulator
PVC	Permanent Virtual Connection
SVC	Switched Virtual Connection
SW	Software
TAPI	Telephony Applications Programming Interface
TSP	TAPI Service Provider
VCM	Voice Compression Module
VoIP	Voice over IP
VPN	Virtual Private Network
WAN	Wide Area Network
X.500	International standard for directory systems from all manufacturers for use on all types of platforms

All solutions described in this manual have independent country specific sales releases. Please check with your local representative for country specific availability.

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