

Ocean 2280

IN Application Server

- ~ Carrier grade
- ~ Resilient Architecture
- ~ 5,000 services with 10,000 assignments
- ~ Switch and Intelligent Peripheral control
- ~ Up to 20,000 call set-ups per second (available in units of 100)
- ~ Up to 65,000 simultaneous calls (available in units of 1,000)
- ~ Graphical service creation
- ~ Standard and user-defined nodes (Service Independent Building Blocks (SIBs))
- ~ Programmable TCP/IP and UDP/IP Interfaces
- ~ Integrated content management
- ~ Internal tables with automated provisioning
- ~ External database support
- ~ Asterisk IVR interface



The Ocean 2280 IN Application Server enables communication providers to safely migrate from TDM to NG networks and rapidly implement new services, whether they are for customer retention, increased revenue or cost reduction.

The Ocean 2280 can support signalling for use in NG networks, and simultaneously control devices in TDM networks via INAP as well as directly integrating with other Ocean 2000 Voice platforms. The Ocean 2280 can support 80 or more units, each with different interactive resources, such as audio announcement, DTMF detection or speech recognition capabilities. This flexibility enables the Ocean 2280 to be used in a variety of configurations, including hybrid networks and those undergoing migration from TDM to NG networks, so that data-intensive services can be offered such as number portability, access screening, number translation and intelligent call routing.

The Ocean 2280 is highly scalable. It has data capacity for up to 75 million ported numbers, up to 95 million access screening numbers and up to 45 million number translation entries. With all tables kept in memory for maximum performance – the Ocean 2280 supports 65,000 simultaneous calls and up to 70 million BHCA. Services can also communicate with external databases or other resources over TCP/IP. This enables the Ocean 2280 to interwork with other network devices to optimise call routing, for example, interworking with a Genesys T-Server to provide intelligent call routing as part of an overall customer care solution.

As any communications provider would expect from a mission-critical platform, the

Ocean 2280 can offer availability greater than 99.999%. It is installed as a pair of servers to provide this level of resilience. The service deployment tools automatically provision to both servers in a pair to simplify service management and ensure consistency. The Ocean 2280 operates with a safe runtime environment that delivers support for stable services and has the ability to detect and lock unstable services protecting revenue and offering the highest quality of service.

Integrated management of interactive resources is achieved by using resource groups containing call-handling units that have capabilities in common. The Ocean 2280 supports up to 255 independent resource groups, providing enormous flexibility in resource management. Services are created using the supplied Service Creation Environment; this gives operators the ability to create their own services tailored to their particular requirements. The Service Creation Environment enables selection of the required resource group during service execution, different resource groups can be used at each phase of a call, enabling the caller to be connected to the most appropriate resource for each call phase.

The management environment integrates with other Ocean products and provides a real-time view of system activity and alarm conditions. The management interface is designed for simplicity making it easy to use and minimising training costs.

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Specification

Service Capacity

- ~ 5,000 service maps
- ~ 1,024 node types (service logic elements)
- ~ 100,000 node instances
- ~ 10,000 number or service key assignments (maximum 1,000 to any given map)

Traffic Capacity

- ~ Up to 20,000 call set-ups per second (service dependent, available in units of 100)
- ~ Up to 65,000 simultaneous calls (available in units of 1000)
- ~ 100 simultaneous management tasks

Internal Tables

- ~ Memory-resident tables for optimal performance
- ~ Disc back-up for additional security
- ~ User-defined record structure with up to 100 fields
- ~ Binary internal storage format for high density
- ~ Up to 15GBytes of internal table space (supplied with 2GBytes upgradable in units of 1GBytes. The maximum size of an individual table is 1GBytes)
- ~ Up to 5000 internal tables
- ~ Live table updates with instantaneous changeover

External Database Support (option)

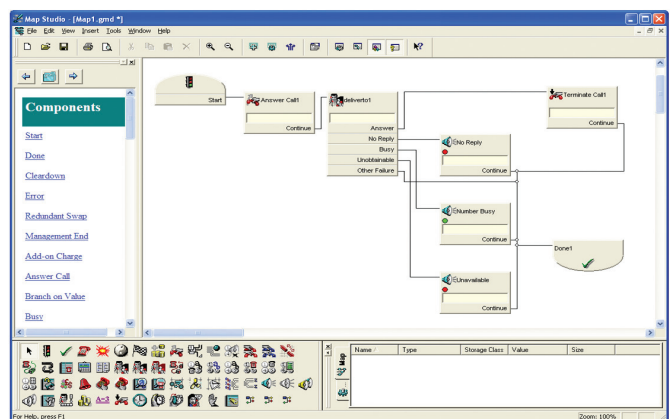
- ~ Database access APIs
- ~ Supports MySQL Databases

Standard Applications

- ~ Number Translation
- ~ Indirect Access
- ~ Least-Cost Routing
- ~ Number Translation with Least-Cost Routing
- ~ Indirect Access with Least-Cost Routing

Service Creation

- ~ Windows-based service creation applications:
 - Map Studio – visual service development
 - Data Studio – interface to ODBC-compliant data sources
 - Deploy – integrated deployment of service logic & audio
- ~ Caller maps – activated by call arrival
- ~ Management maps – for background processing
- ~ NODAL programming language (C-based) – for creating customised node types
- ~ Ocean Provisioning Gateway – automatic deployment of application elements onto relevant platforms
- ~ Live service updates



Standard Node Types

- ~ 69 standard node types covering:
 - Time related
 - Call set-up and clear-down
 - Caller interaction
 - Call delivery and routing
 - Internal table access
 - TCP/IP communications
 - Billing and charging
 - Intelligent Network Application Part (INAP) interface
 - Hashed Database
 - Miscellaneous (for example, generate application alarm)

Customised Node Types

- ~ 'C' syntax programming language – NODAL library functions for:
 - Call control
 - Caller interaction
 - Audio announcements
 - Dual-Tone Multi-Frequency (DTMF) detection
 - Speech recognition
 - Internal table access and backup
 - Inter-task communication (both intra- and inter-Ocean 2280)
 - TCP/IP and UDP/IP sockets
 - Date and time
 - Timer control
 - Customised alarm generation
 - Customised messaging for third party resources
 - External database integration

Asterisk IVR OCP Interface (option)

- ~ Standard Asterisk nodes
- ~ Asterisk OCP Interface

Caller Interaction

- ~ Up to 255 resource groups for interactive capabilities
- ~ Integrated deployment of service logic and audio using Ocean Provisioning Gateway
- ~ Up to 128 000 audio files per system (subject to capacity)
- ~ Live audio updates (Ocean 2010 Service Switching Point with audio playback)

Redundancy

- ~ Supplied as a software licence for a pair of servers
- ~ Active/hot standby
- ~ Automatic fail-over
- ~ Managed shutdown and restart
- ~ Availability in excess of 99.999% (based on recommended hardware)

Operations and Management

- ~ The 2280, 2282, and 2283 have individual management interfaces
- ~ Statistics are available for the 2280, 2281 and 2283 via their respective management interfaces
- ~ Alarms management for 2280, 2282 and 2283 via Simple Network Management Protocol (SNMP)

Interfaces

- ~ Supports two 1000/100/10 BaseT Ethernet LAN interfaces for call control, network management and provisioning (based on recommended hardware)
- ~ Supports two 1000/100/10 BaseT Ethernet LAN interfaces for SS7 INAP SIGTRAN use (based on recommended hardware)
- ~ Supports two 1000/100/10 BaseT Ethernet LAN interfaces for SIP (based on recommended hardware)
- ~ Ocean Control Protocol (OCP) over TCP/IP network to call-handling units
- ~ Standard 'sockets' programming interface to TCP/IP or UDP/IP for external communications
- ~ External database support (option)
- ~ Asterisk IVR OCP Interface (option)
- ~ Ocean 2283 SS7 INAP over SIGTRAN M3UA (option)
- ~ Ocean 2282 SIP over UDP or TCP (option)

Ocean 2283 SS7 INAP Support (option)

- ~ ETSI CS-1 INAP (subset) according to ETS 300 374-1

Ocean 2282 SIP Support (option)

- ~ Third-party Call Control (RFC3725)
- ~ Support for three modes of operation:
 - Redirect Server
 - Non-Record-Route Proxy
 - Back-to-Back User Agent
- ~ Support for:
 - UDP/IPv4
 - UDP/IPv6 (option)
 - TCP/IPv4
 - TCP/IPv6 (option)

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