

AT&T WorldMark™ 5100M Server



GET IT
move
USE IT

*Bringing computing and communications
together to help you get, move,
and use information.*

AT&T WorldMark™ 5100M Server

AT&T Global Information Solutions introduces the Massively Parallel Processing (MPP) member of the AT&T WorldMark™ 5000 server series – the AT&T WorldMark 5100M server. Using a modular cabinet, a series of “subsystems,” and the most advanced interconnect technology, the AT&T WorldMark 5100M offers exceptional price/performance, availability and investment protection through a unique design that provides the ultimate in system scalability.

An MPP system uses a loosely-coupled design in which all processor subsystems have local dedicated memory and separate copies of the operating system. Communication between processor subsystems occurs through a high-speed interconnect. The system and interconnect design contribute to scalability and unprecedented power -- to dozens, hundreds or thousands of processors -- enabling the largest database applications in the world.

The WorldMark 5100M server is an exceptional platform for enabling a multitude of information solutions, including:

- Decision Support
- Enterprise Wide Mission Critical Online Complex Transaction Processing (OLCP)
- Data Warehouses

Architected for Performance and Availability

To meet the most demanding performance requirements, the WorldMark 5100M server implements a relational database model using the parallel processing approach. Rather than managing your data within a single processor subsystem, the WorldMark 5100M server distributes tasks to many processor subsystems. The linear subsystem scalability of the WorldMark 5100M server allows workload throughput to increase as you increase the number of processor subsystems.

This parallel processing approach greatly enhances the ability to quickly convert data into information by simultaneously using the multiple processor subsystems to gather information from the database. The parallel processing performance provided by the WorldMark 5100M server coupled with the industry's leading databases, brings you outstanding information solutions. The WorldMark 5100M server supports Teradata™ Database solutions and mixed configurations consisting of Teradata and merchant databases, including: Oracle Parallel Server™, SYBASE Navigation Server™ and INFORMIX OnLine Dynamic Server™ XPS solutions.

Along with superior performance capabilities, the WorldMark 5100M server offers outstanding reliability, availability and serviceability through many features, including:

- Hot swappable and hot addable disk drives, hot swappable power supplies, batteries and fans
- Redundant/fault resilient power supplies, batteries, MPP network, and redundant fans
- AT&T UNIX SVR4 MP-RAS, AT&T's mature, stable, and proven operating system software

Investment Protection through Scalability and Expandability

With the AT&T WorldMark 5100M server's highly scalable architecture, you can expand your computing power incrementally as your applications grow. Unlike mainframe computing, where growth in processing power means installation of a large upgrade or replacement of an expensive mainframe, the WorldMark 5100M server allows you to expand your system incrementally, whether you are adding more power to accommodate natural business growth, new users, new applications or increased database capacity.

The WorldMark 5100M server's foundation is the single processor subsystem identical to the one used in our WorldMark 5100S server. You can begin to develop your application on a WorldMark 5100S server and later upgrade to a WorldMark 5100M server offering virtually unlimited scalability.

Advanced Interconnect Technology

The AT&T scalable BYNET™ Interconnect is the key ingredient for multiple processor subsystems to work as a team to enable the largest commercial databases in the world. A fault resilient high performer, BYNET is a dual redundant, bi-directional, multistage interconnection network that enables multiple processor subsystems to communicate in a high-speed, loosely coupled design.

BYNET is based on a folded Banyan network topology which provides multiple switching paths to interconnect all of the processor subsystems within the WorldMark 5100M server configuration. The name "BYNET" is derived from Banyan Network; it is commonly pronounced as "buy-net."

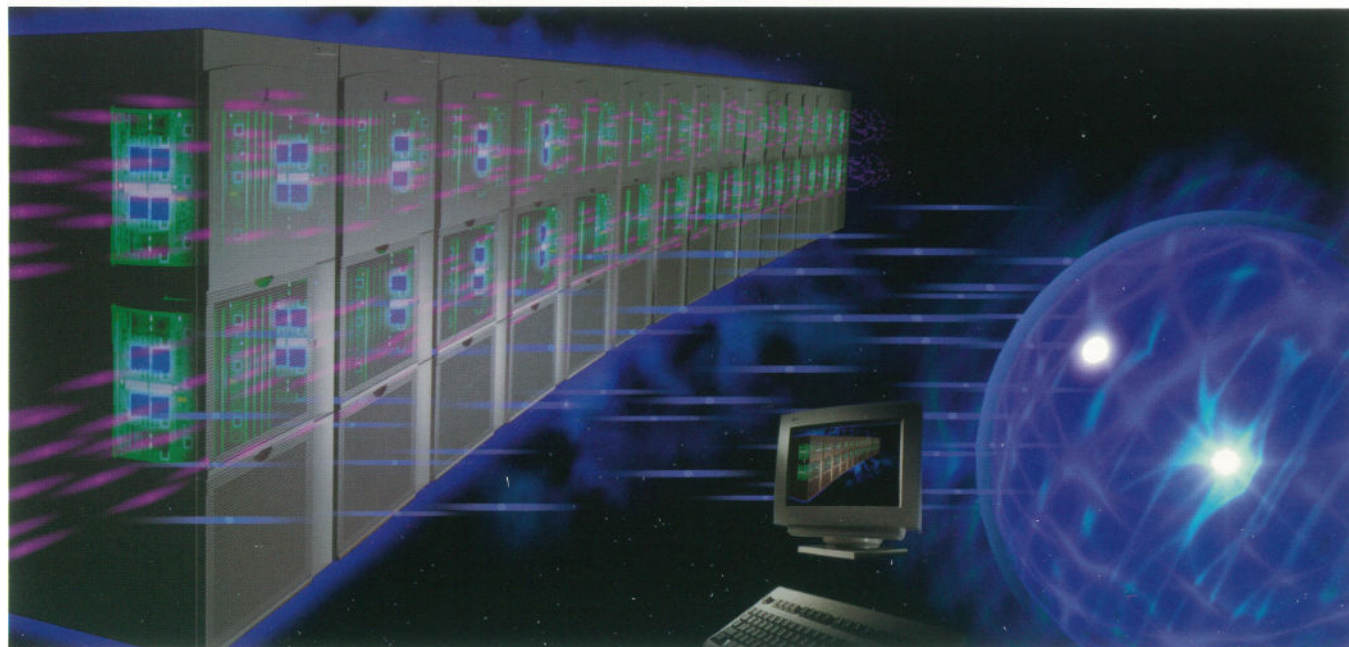
As the newest generation of interconnect technology, the BYNET network provides a peak bandwidth of 20 MB/second for each processor subsystem connected to the MPP BYNET network. But BYNET is more than just a high speed interconnect. Investment protection and system performance are ensured with this interconnect because the BYNET network bandwidth scales linearly as processor subsystems are added to your MPP enterprise computing solution. Your enterprise will have unparalleled database connectivity and power for growth to tens of terabytes.

Easy and Efficient System Management

The WorldMark 5100M server offers a single operational view for your entire MPP system. This single point of system administration and management is provided by the Administration Workstation (AWS), essentially a desktop computer. The AWS allows you to easily monitor the system's status for processor subsystems, disk subsystems, and MPP network connections to each processor subsystem, no matter how many cabinets.

With the most performance and scalability offered in the AT&T family of servers, the AT&T WorldMark 5100M is the most flexible, powerful, available solution for your large database management needs.

AT&T WorldMark™ servers provide the power, availability, and scalability your business needs to get, move, and use information.



AT&T WorldMark™ 5100M Server

MPP System Scalability

MPP System

- Up to 16 processor subsystems
- Up to 512 processors (16 subsystems with 32 processors per subsystem)

Processor Subsystem

- One or two processor subsystems per **WorldMark™ 5100M** server

CPUs per Processor Subsystem

- 4 to 32 133 MHz Intel® Pentium® processors, each with 4 MB second level cache; 32 MB LARC (Limited Address Range Cache) per Quad processor board
- Support for the next generation Intel processor family

System Bus per Processor Subsystem

- 400 MB/second total bandwidth

Memory per Processor Subsystem

- One or two Disconnect Memory Boards
- 64 MB to 4 GB Error Checking and Correcting memory with 2/4-way interleaving

I/O per Processor Subsystem

- Enhanced Micro Channel® - Dual I/O bus at 80 MB/second
- 16 I/O slots; 32-bit bus width per slot
- Quad SCSI Fast and Wide channels at 20 MB/second

MPP Interconnect Subsystem

- Two BYNET Interface Adapters per processor subsystem
- BYNET Interconnect Fabric
- Enables up to 16 processor subsystems to be configured in a single MPP system

Administration Workstation

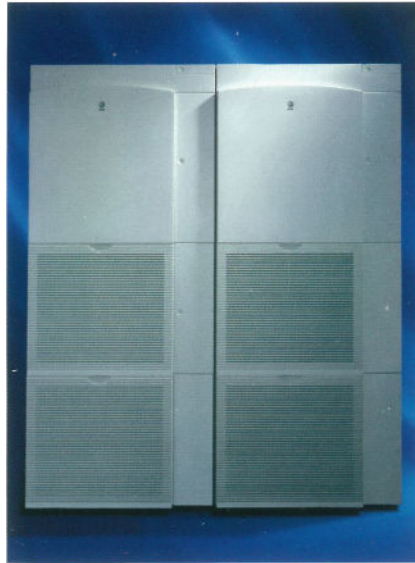
Subsystem (AWS)

- Single point of system administration and management for the MPP system
- Connected via Ethernet LAN to the AWS console and the processor subsystem
- Connects to external disk subsystems
- Optional Administration Stations
 - Provides additional console connections for local or remote system monitoring

Backup Devices per

WorldMark™ 5100M server

- Two local media subsystems
- Up to eight half-height drives
- 3.5-inch flex drive
- Support for:
 - 600 MB CD-ROM
 - 4/8 GB DDS-2 DAT Tape
 - 1 GB QIC Tape
 - 7/14 GB 8 mm Tape



External Data Storage

- AT&T 6256 Rack Mount Disk Array Subsystem
 - 256 GB storage capacity
 - Supports RAID 0, 1, 3, 5
 - Internal UPS
 - Hot plug drives, fans, disk controllers
- AT&T 6091 Tape Subsystem
 - Digital Linear Tape (DLT)
 - 8 mm Tape
- AT&T 5607 Disk Subsystem
- AT&T 6298 Disk Subsystem
- AT&T 6299 Disk Subsystem
- AT&T 6357 Tape Drive
- Exabyte® 210 and 440/480 (available from AT&T)
- StorageTek® 4400 Silo (available on a referral basis)

Connectivity per Processor Subsystem

- Up to 7 LAN and 24 WAN connections per processor subsystem
- Optional MPCM Communications Subsystem
- Optional IBM Channel for Teradata
- Optional IBM Channel via Deployer

High Availability Features

- Internal uninterruptible power (via battery back-up)
- Three fault resilient hot-pluggable fan modules per processor subsystem
- Redundant power supplies
- Redundant battery back-up
- Hot pluggable disk drives
- Dual redundant BYNET

Specifications

- Physical dimensions per **WorldMark 5100M** server cabinet:
 - Height: 183 cm (72 in.)
 - Width: 76 cm (30 in.)
 - Depth: 102 cm (40 in.)
 - Weight: 499 kg (1100 lbs) (fully configured - two processor subsystems)
- Operating temperature 5° to 45° C (40° to 113° F)
- Up to 8 750 Watt power supplies per **WorldMark 5100M** server
- Power Requirements
 - Voltage Range: 200 to 240 VAC three phase
- Compliance with U.S. and international safety and emissions standards.

Supported Operating Systems

- AT&T UNIX SVR4 MP-RAS

Supported Databases include:

- In fail-over mode:
 - INFORMIX OnLine Dynamic Server
 - Oracle®
 - SYBASE SQL Server™
- In MPP mode:
 - INFORMIX OnLine Dynamic Server XPS
 - Oracle Parallel Server
 - SYBASE Navigation Server
 - Teradata Database System for UNIX (MPP)



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