



NCR

Enterprise

Computing

Guide



**The NCR
Computing Advantage:**

NCR's commercial open computer systems offer three key distinctions:

- *Complete, integrated computer systems to specifically address your warehousing and open, high transaction processing needs.*
- *Differentiated value in scalability, availability and performance added onto our industry-standard systems.*
- *Highly integrated professional and support services to ensure the most value from our technology.*

Welcome to the new issue of the NCR Enterprise Computing Guide! This issue proudly presents a complete overview of NCR's computing competencies, with special emphasis on the highly successful WorldMark™ server family line.

As a newly independent, more focused and re-energized company, NCR is dedicated to providing world-class solutions where we have proven leadership: delivering commercial, open computer systems for High Availability Transaction Processing (HATP) and Scalable Data Warehousing (SDW) solutions. These solutions help businesses by turning customer information into results, protecting existing information technology investments, reducing risks and ensuring success.

NCR's solutions are built on our extensive product and service offerings, and strengthened by offerings from our many strategic partners. For this, NCR offers the most extensive and scalable line of servers – from entry-level SMP to the enterprise-level WorldMark series – using an all Intel® Pentium® and Pentium Pro processor line. This provides customers with affordability, scalability and performance unseen in the industry.

“Future focal points for NCR are in architecture, data warehousing, and high availability services – all with 20%+ market growth potential... Watch for this company to make huge strides through the rest of this decade.”

The Yankee Group
“Management Strategies”
Innovator Profile: NCR

Scalable Data Warehousing



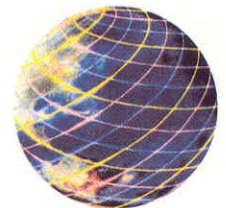
Data warehouses capture the most critical information about your customers, markets and products from assorted operational systems to construct one unified decision-support system. Building a data warehouse is complex and requires diligent planning, knowledgeable resources, the right hardware platform, database, software applications and tools, etc. NCR is the best company at pulling all these elements together. With over a decade of experience designing, implementing and managing data warehouse solutions for over 500 customers, NCR is the undisputed industry leader.

High Availability Transaction Processing



Any system outage is damaging to your business's bottom line. The best way to overcome these high availability challenges is to partner with the leader. Our HATP solutions are a union of NCR systems, software, services and partnerships. We integrate your systems with merchant databases and key business applications to ensure maximum system availability.

Electronic Commerce On the Internet/Intranet



NCR has taken its leadership position in SDW and HATP a step further. To help you master the next wave in computing technology, NCR is integrating Internet technologies into our **WorldMark** servers for better accessibility to your employees, customers and business partners. Incorporating these technologies extends our SDW and HATP offerings for your complex business problems.

“Recent improvements now position NCR as one of the few enterprise-class platform providers that can offer an all Intel inside scalable architecture for both NT and UNIX...”

Giga Information Group

Through a choice of UNIX® or Microsoft Windows NT®, you can implement the ideal operating environment – for your needs.

UNIX SVR4 MP-RAS

UNIX SVR4 MP-RAS is widely considered to be the most robust and scalable UNIX offering available. With over 15 years of experience in UNIX commercial open systems, NCR is the leading provider of



Intel processor-based midrange servers, the volume leader in high availability open systems, and provider of the world's largest database servers. Virtually all of these systems run UNIX SVR4 MP-RAS.

Additional software products like LifeKeeper and TOP END provide even greater scalability and high availability for your most complex mission critical applications.

Microsoft Windows NT Server

Designed for client/server computing, Microsoft Windows NT Server sets the standard for ease-of-use, choice of applications and flexibility for deployment across the enterprise.



NCR is the leading provider of midrange Windows NT systems, and delivers unsurpassed high availability solutions for Windows NT. NCR LifeKeeper clustering provides failover of your data, applications and other resources, while TOP END goes one further to provide continuous application availability. And NCR's servers for Windows NT expand up to sixteen processors, so your growth is unlimited.

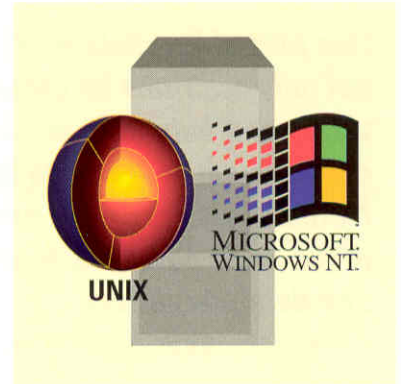
In addition, NCR and its partners provide you with an enterprise-ready, integrated management solution. This includes monitoring and configuration, real-time discovery, remote administration, software distribution and data management.

“NCR is one of the few companies that has a very rational, well-defined story between UNIX and NT.”

Peter Kastner
*Group Vice President
The Aberdeen Group*

UNIX and Windows

NCR understands the importance of UNIX and Windows NT coexistence. Our customers want it and are implementing it already. In response, NCR offers the most extensive range of coexistence and migration capabilities including:



- Advanced Server for UNIX – delivers the advanced networking of Windows NT Server on NCR UNIX SVR4 MP-RAS. Users can store and access files on both operating systems (locally and remotely) and administrators can implement Windows NT domains and distributed security on UNIX systems with complete interoperability.
- NCR TOP END middleware for distributed applications
- Heterogeneous UNIX/NT data warehouse solutions
- Network and systems management
- Intel processor-based WorldMark servers
- NetVault® backup and restore management tools

In addition to UNIX SVR4 MP-RAS and Windows NT Server, NCR's entry-level computing platforms also support UnixWare®, Novell® NetWare®, and Open Sender from SCO.

“This port of Teradata to NT not only reaffirms its clear vision and long term commitment to Teradata by NCR, but also provides one of the more powerful, high-end data warehouse databases now in a highly scalable continuum of price performance capabilities.”

Aaron Zornes

*Executive Vice President
& Director
Application Delivery Strategies
META Group, Inc.*

From departmental OLTP applications to the very largest enterprise decision-support solutions, NCR offers the widest variety of database solutions. Database functionality and performance optimization are two of the most critical elements of HATP and SDW solutions for NCR WorldMark servers. NCR ensures your database meets those key needs. Our scalable database solutions enable you to leverage initial hardware and software investment as your database applications grow to enterprise-wide systems.

NCR offers Internet access to a RDBMS by using a gateway from a Web Server. These solutions are based on two common methods for developing Internet or Intranet database applications: Common Gateway Interface (CGI) and Java™.

NCR Teradata® RDBMS

NCR is the only vendor in the world to offer a proven, production-ready parallel RDBMS for Scalable Data Warehouse applications. The NCR Teradata Database System is a scalable, high-performance relational database management system that has proven world-class decision support and complex ad hoc query capabilities. By combining the flexibility and ease-of-use of NCR Teradata with the power of massively parallel architecture, NCR has achieved throughput levels and price/performance unmatched in the industry today.

NCR Teradata for UNIX is installed at more than 400 customer locations throughout the world, including the world's largest commercial data warehouse. It runs on the NCR WorldMark 4500, 3600, 5100S and 5100M.



NCR and Informix have joined forces to form a worldwide partnership

delivering highly available solutions. By using standard open-industry components such as Intel microprocessors, UNIX and Windows NT operating systems, and WorldMark servers with Informix's industry-leading database software, the two companies are able to deliver high availability solutions at a competitive price.



NCR actively partnered with Microsoft in developing Windows

NT, and continues to partner with Microsoft on Windows NT and SQL Server. We want to ensure that our NT offerings are highly scalable and seamlessly integrate with our high availability LifeKeeper and TOP END products.



NCR and Oracle jointly test, certify, develop and tune Oracle software on

NCR WorldMark servers to deliver the best possible OLTP and data warehousing solutions. Areas of cooperation include Development Tools, High Availability and Parallel Databases. Additionally, Oracle's products are integrated with NCR's LifeKeeper and TOP END middleware offerings to ensure maximum performance and availability.



Sybase database products run across the NCR WorldMark servers for UNIX and Windows NT, and are

fully integrated with NCR's high availability middleware, LifeKeeper and TOP END.

NCR 3259 Family

High Performance Desktop and Minitower PCs

"We find NCR PCs meet our price performance objectives. We've used NCR PCs in our restaurant operation since 1989 and find the workstations are equipment we can count on."

Jim McGinty
 Director of Restaurant
 Systems Support
 Pizza Hut

Combining power and performance in desktop and minitower configurations, the NCR 3259 family is optimized for business critical computing.

NCR recognizes the importance of PCs in your IT environment. The 3259s are designed to complement our **WorldMark** family of high end servers as well as our entry-level servers in a client/server environment or as the workstation component in a branch or store automation solution.

The 3259 PCs maximize performance by using the latest Intel Pentium processors. A high degree of flexibility and expandability is achieved by utilizing industry standard peripheral components.

Both the desktop and minitower support the most popular operating systems. All in all, you get the performance, expandability, quality, and reliability you need to meet your computing requirements.



Features	Benefits
<i>Intel inside</i>	<i>Industry leading Intel chipset and motherboard technology</i>
<i>DMI 2.0 Compliant</i>	<i>Local and remote network systems management</i>
<i>Parity/ECC Memory</i>	<i>Data integrity for mission critical applications</i>
<i>Dual Universal Serial Bus (USB)</i>	<i>Hot plug and play expandability for multiple high speed serial devices</i>
<i>Localization</i>	<i>Fully configurable multiple language hardware and software support</i>

NCR S16 Server

Pentium Pro Minitower

The S16 sets new standards for value in the financial branch and retail store server markets.

Premium performance, scalability, and flexibility allow the S16 to meet the needs of retail, financial and other replicated branch environments requiring file/print applications, e-mail and fax applications, and small LAN database packages.

The S16 supports either 180 or 200 MHz Intel Pentium Pro processors and up to 384MB Error Checking and Correcting (ECC) memory. Six drive bays and seven bus mastering I/O slots provide further scalability within the system. A well-designed PCI/ISA architecture means exceptional bandwidth, integration and peripherals that can take full advantage of Intel processing power.

The S16 comes with an advanced set of server management software applications that can be used independently or integrated for customized functions such as fault resilience, performance tuning, monitoring and analysis capabilities. Other options such as ECC memory and RAID levels 0, 1, and 5 further ensure the utmost data integrity.

The NCR S16 provides flexibility by supporting a number of popular operating systems such as Novell NetWare and UnixWare, Microsoft Windows NT Server, SCO® UNIX, and IBM® OS/2, in addition to NCR's UNIX SV4 MP-RAS.



Features

Benefits

- Support for Intel Pentium Pro processors (180 or 200 MHz)
- EDO memory

Superior performance and scalability

ZIF Socket for future Intel Pentium Pro CPU upgrades

Supports your investment

Four user accessible drive bays supporting up to 12GB internal storage

Provides in-box expansion

- Server Availability Manager 4.0 for Windows NT
- NCR LifeKeeper

Promotes high availability

NCR UNIX SVR4 MP-RAS High Reliability Features:

Increased server reliability

- In-service diagnostics
- remote diagnostics
- error logging and reporting
- journaling file system
- power fail recovery
- logical volume manager

NCR S26 Server

For Branch and Store Automation and Enterprise LAN Environments

“Chase liked the expandability of the S26, allowing the ability to go from Pentium to Pentium Pro, and from single to dual processors. The S26 has more drive bays than the competition and came out the best in price/performance compared to the competition.”

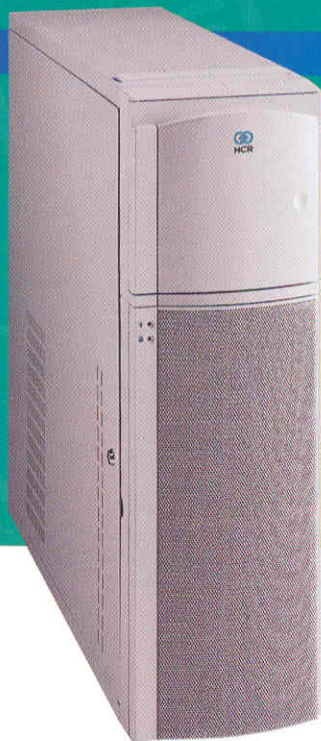
Roger Quinton
*Vice President of
 Retail Banking
 Chase Manhattan Bank*

You need highly reliable, available and scalable processing in the retail store or financial branch environment. You want a low cost server. The NCR S26XL and XLP servers fulfill both of those requirements for store and branch automation environments. They are also excellent LAN servers, file/print servers and back office servers for financial and retail enterprises.

The NCR S26 models provide expansion capability and memory architecture to meet requirements for low cost performance, investment protection, as well as hot plug data storage for improved servicing and system expansion.

The NCR S26 family also offers increased application availability with its value-add systems management software for both Microsoft Windows NT and NCR UNIX SVR4 MP-RAS operating systems.

With in-box processor upgradeability – from uni-processor to dual Intel Pentium or Pentium Pro processors – and enhanced memory architectures, you can depend on the NCR S26 systems to deliver levels of performance and scalability typically found on high-end servers.



Features

Benefits

- S26XL support for 1 to 2 Intel Pentium processors (133 MHz or 166 MHz)
- Extended Data Out (EDO) memory

Superior performance and scalability

Upgradeable in-box from S26XL Intel Pentium to S26XLP Pentium Pro series.

- Investment protection
- Scalability from Pentium and Pentium Pro processors

8 hot plug drive bays supporting up to 32GB internal storage

- Improved serviceability for maximum system uptime
- In-box expansion

- NCR LifeKeeper (Rel. 2)
- Server Availability Manager 4.0 for Windows NT

High availability

*NCR UNIX SVR4 MP-RAS Features:
 In-service diagnostics • Remote diagnostics • Error logging and reporting • Journaling file system • Power fail recovery • Logical volume manager*

Increased server reliability

NCR S40 Server

Powerful Networking Capabilities and Support for Advanced Computing

"I think the S40 has performed extremely well, the I/O has been phenomenal."

Robert Sharp
Project Manager
Orkand Corporation
U.S. Department of
State Contractor

The S40 is designed for demanding environments requiring super server applications, database management, and LAN consolidation. It supports from one to four 100, 133 and 166 MHz Intel Pentium processors.

The S40 features a dual PCI bus and EISA architecture with twice the performance bandwidths as typical bus architectures. And true SMP cache architecture allows you to manage multiple applications.

The S40 has advanced server management capabilities. These tools can be used independently or integrated for customized server management functions including fault tolerance, performance tuning, monitoring and analysis capabilities. Special features ensure data integrity without system interruption.

You can use a variety of industry-standard hardware and software for maximum flexibility. The S40 supports operating systems such as Novell NetWare and UnixWare, Microsoft Windows NT Server, SCO UNIX, SCO MPX, and IBM OS/2, in addition to NCR's UNIX SVR4 MP-RAS.



Features

Benefits

Support for up to 768MB ECC RAM	Ensures data integrity and system uptime
Eight I/O slots – 4 EISA, 2 PCI, and 2 shared slots	Supports a wide array of standard industry peripherals for superior configuration flexibility
True symmetrical multiprocessing	Eliminates cache bottlenecks and ensures streamlined system performance
Server Availability Manager	Provides network monitoring and alert capabilities for Microsoft Windows NT server environments
Server Monitor Software	Provides accurate diagnosis of operating system and hardware conditions for Novell NetWare environments

NCR WorldMark 4100 Server

Maximum Performance for Your Departmental Applications

"The 4100 has been an extremely scalable platform for us, providing excellent high availability features, all within a relatively small footprint."

David Nocera
Architecture &
Planning Specialist
AT&T

The WorldMark 4100 server leverages NCR's experience in architecting powerful, scalable symmetrical multiprocessing (SMP) systems. To address the particular needs of departmental application environments or large replicated server environments, three 4100 models were designed: the WorldMark 4100S, the WorldMark 4100C and the WorldMark 4150S server.

The WorldMark 4100S supports from two to eight of 166 MHz Intel Pentium processors or 200 MHz Intel Pentium Pro processors.

Additionally, the WorldMark 4100C server provides fault resilience and enhanced processing power with NCR's LifeKeeper clustering software. With a single point of database administration, you can join up to eight systems in a cluster for a cost-effective way to increase performance and data availability.

The WorldMark 4150S delivers industry-leading availability features, including: an advanced 10GB or 20GB internal disk array, internal hot plug replaceable disk drives, an internal battery back-up, full power fail recovering and a dedicated diagnostic subsystem.



Features

Benefits

Support for two to eight 166 MHz Intel Pentium or 200 MHz Pentium Pro processors

Provides superior scalability and maximum investment protection

SMP with dual 64-bit system bus, dedicated 2MB second level cache

Eliminates cache bottlenecks and ensures streamlined system performance

Support for up to 2GB ECC RAM with dual-ported 2 or 4-way interleaving

Ensures data integrity and allows faster performance by freeing system bus

Nine fixed disk drive bays for up to 36GB of internal disk storage

In-box expansion as systems' storage requirements grow

Optional 10GB or 20GB hot-pluggable internal disk array storage, with Series 4 RAID controller (standard with the WorldMark 4150S)

Ensures high availability and improved performance

Support for NCR's UNIX SVR4 MP-RAS and Microsoft Windows NT Server

Choice of the industry's most robust open enterprise operating environments

NCR WorldMark 4300 Server

Single Platform for the Divisional/Departmental Server Arena

"The 4300 is designed by people who understand the needs of commercial data processing, transaction processing and decision support. The 4300 has features in it no one else has. It's a leader in this area, and therefore, is an ideal choice for the kind of commercial computing we have now and we'll see in the near future."

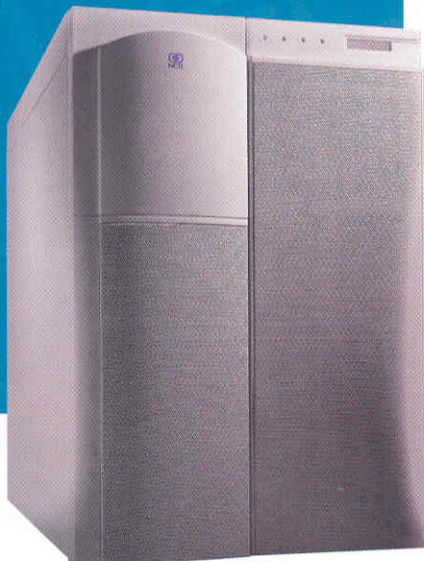
Peter Kastner
Group Vice President
The Aberdeen Group

Whether your primary computing concern is reducing downtime, ensuring future growth, maximizing performance or standardizing platforms, the WorldMark 4300 is the right choice.

The WorldMark 4300 offers up to eight Intel Pentium Pro processors utilizing NCR's OctaSCALE™ architecture. The true innovation of OctaSCALE is the ability to take advantage of industry-standard, high-volume components, while leveraging NCR's long standing success and experience in SMP technology. OctaSCALE allows you to scale from one to eight on-board Pentium Pro processors in a true SMP architecture. You get the high performance of a true eight-processor SMP solution in a single cabinet.

The WorldMark 4300 is offered as a single node, clusters of nodes, or rack mount configuration.

The WorldMark 4300's scalability maximizes your system's computing capacity. And the inherent expandability of the system ensures your investment for years to come.



Features

Benefits

Support for 1-8 Intel Pentium Pro Processors

Performance, scalable processing power and growth

In-box field upgradeable to 8 Processors

Investment protection, ease of use, and cost of upgrade

N+1 redundant hot pluggable power supplies and hot pluggable disks

Minimal downtime with on-line replacement of disk and power supplies, better serviceability

Full power fail recovery

Increased productivity by returning users to original state of application

Support for UNIX and Windows NT operating systems

Investment protection and system flexibility

NCR WorldMark 4300 Rack

Rack-Mounted Solution for the Divisional/Departmental Server Arena

Expanding the WorldMark 4300 offering, the Rack Mount solution meets the needs of customers challenged with space constraints, flexibility and accessibility.

NCR realizes that today's large Corporate Data Centers are searching for centralized communications and more efficient use of space. Likewise, server rooms are becoming so cluttered with multiple server applications that it is almost essential to have rack cabinets to organize and efficiently maintain your computing environment.

Perfect for LAN/Server consolidation or departmental data marts, NCR's 4300 Rack packs powerful performance into a small footprint. Key benefits include its provision of up to four 1-4 way nodes in a single rack cabinet; its extension of limited space; better cable management; increased user accessibility of components; and easier server management.

The new server provides the functionality of the current deskside WorldMark 4300 in a convenient rack mount cabinet, offering Pentium Pro symmetric multiprocessing and PCI I/O to provide unparalleled reliability, availability, and serviceability, investment protection, scalability, and price/performance for the departmental server users.



Features	Benefits
<i>Each node supports 1-4 Intel Pentium Pro Processors</i>	<i>Performance, scalable processing power and growth</i>
<i>N+1 redundant hot pluggable power supplies and hot pluggable disk drives and server management processor</i>	<i>Minimal downtime with on-line replacement of disk and power supplies, better serviceability</i>
<i>Full power fail recovery</i>	<i>Increased productivity by returning users to original state of application</i>
<i>Support for UNIX and Windows NT operating systems</i>	<i>Investment protection and system flexibility</i>
<i>Configuration Flexibility</i>	<i>Configure or cluster multiple computing nodes and disk arrays in a single rack cabinet. Can grow within a cabinet or across numerous cabinets.</i>
<i>Economy of Space</i>	<i>Maximize use of floor space through the use of rack-mounted computing nodes, disk arrays, and power subsystems.</i>

NCR WorldMark 4500 Server

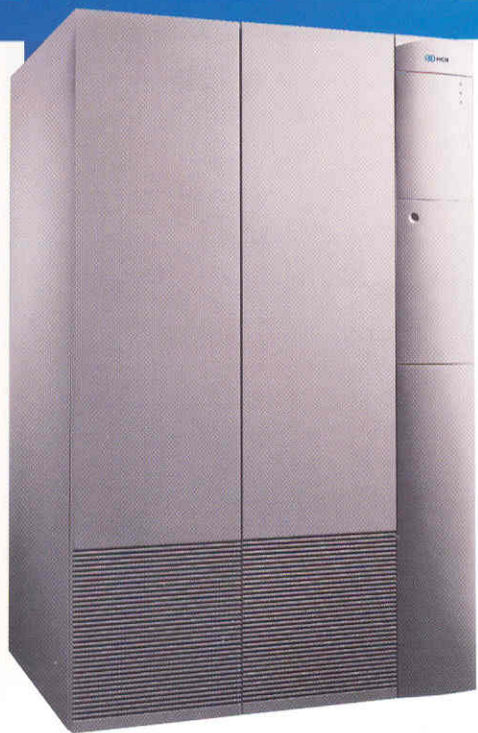
High Availability Medium-Scale server

"No other server has the unsurpassed ability to scale application performance across UNIX, SMP, and MPP platforms like (NCR) WorldMark servers."

Ray Lane
President
Oracle

The WorldMark 4500 server delivers exceptional performance, high availability, and expandability at a very competitive price. Three versions of the 4500 are available to match specific needs.

- WorldMark 4500S is designed as a large regional branch server or an entry-level data center system. The WorldMark 4500S delivers high CPU scalability. It has the ability to expand up to 16 CPUs per system and is upgradeable to the 4500C and 4550S.
- WorldMark 4500C leverages the 4500S base platform. It is equipped with LifeKeeper software for high-performance, cost-effective clustering. By pairing up to eight active WorldMark systems, LifeKeeper ensures continued access to business-critical applications and reduces downtime. Systems which can be coupled with the 4500C include the WorldMark 4100, 4300, 4500 and the 5100.
- WorldMark 4550S delivers the maximum performance and availability of the 4500 series. Quadratic processor boards and increased amounts of second-level cache per processor enhance performance. A variety of hot pluggable and redundant components improve system availability.



Features

Benefits

Optional redundant and hot pluggable fans, battery back-up, redundant power supplies, (all standard on the 4550) and optional internal and external RAID

Supplies high availability for mission-critical business applications

Support for UNIX SVR4 MP-RAS and Microsoft Windows NT

Investment protection through choice of operating environments

Optional LifeKeeper software (standard on 4500C)

Provides fault resilience for systems requiring the most uptime

Support for up to 16 Intel Pentium or Pentium Pro processors through in-box upgrade

Provides expandability for greater processing performance

NCR WorldMark 5100S

Symmetrical Multiprocessing Server

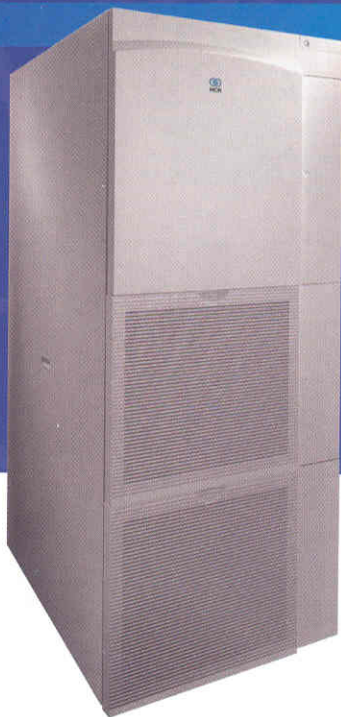
“Unlike any vendor in the market, NCR provides a seamless pathway for scaling a pilot data warehouse to a terabyte warehouse without changing database or applications.”

Wayne Eckerson
Senior Analyst
Patricia Seybold Group

The WorldMark 5100S server is the Symmetrical Multiprocessing (SMP) member of the NCR WorldMark Series. Using a modular cabinet, a series of subsystems, and the most advanced system technology, the WorldMark 5100S server offers exceptional price/performance, investment protection and the ultimate system scalability.

By supporting 4 to 32 Intel Pentium or Pentium Pro processors, the 5100S has unprecedented processing power and scalability. Scalability outside the box is provided since the 5100S is directly upgradeable to the 5100C and 5100M models.

The WorldMark 5100S server offers outstanding availability, reliability, and serviceability with features including: hot swappable and hot addable disk drives, hot swappable power supplies and fans, battery backup, and redundant power supplies and fans.



Features

Benefits

Support for the Intel Pentium Pro series; allows 4 to 32 of the 90, 133, 166 Intel Pentium processors or the 200 MHz Pentium Pro processors	Superior performance, scalability and investment protection
4MB second level cache per Intel Pentium processor or 16MB second level cache per Pentium Pro processor and Limited Address Range Cache on each processor board	Eliminates cache bottleneck and streamlines system performance
Disconnect memory board supporting up to 4GB ECC memory with 2/4-way interleaving	Ensures data integrity, scalability, system performance, reduces system bus contention
Internal Disk Subsystem supporting up to 40 drives and 160GB disk storage	In-box expansion
Internal uninterruptible power, redundant power supplies, optional redundant battery backup	Ensures system uptime
Upgradeable to 5100C or 5100M	Unmatched investment protection

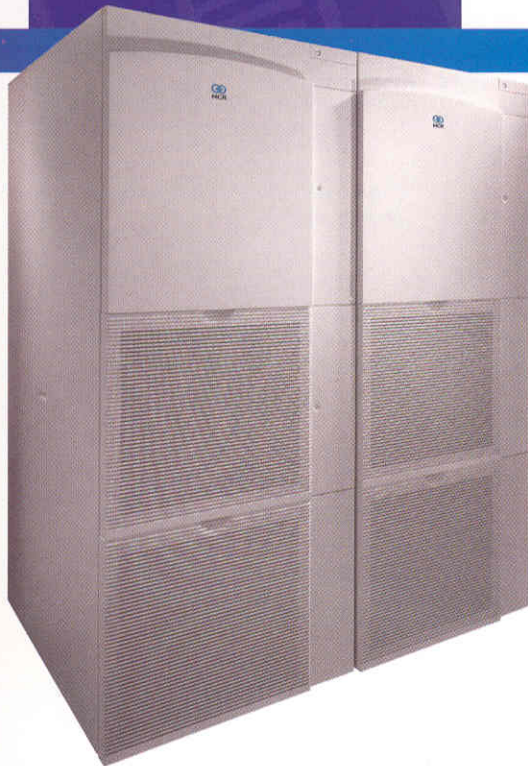
"From SMP to clustered SMP to MPP, NCR has created an engine that can scale gracefully and economically..."

The Standish Group Int'l
"A Special COMPASS Report"

As you continue to perform more of your vital processing on open systems, you want a system that is available 24 hours a day, able to grow and easy to manage. The **WorldMark 5100C** server clustered member of the **WorldMark Series** meets those requirements.

The **WorldMark 5100C** builds off the industry leading SMP technology in the 5100S, providing the same performance, in-box scalability and high availability features. And it has the ability to quickly, easily and inexpensively grow into NCR's Massively Parallel Processing architecture.

NCR LifeKeeper clustering software, an optional addition to the 5100C server, can be used with Oracle Parallel Server to give you simultaneous access to databases and shared applications. LifeKeeper can also be used with other merchant databases to provide high availability. Up to eight processor subsystems can be joined in a single cluster. This adds a cost-effective means of increasing performance and ensuring high data availability.



Features

Benefits

Uses WorldMark 5100S processor subsystem as foundation. Can grow into the MPP 5100M system

100% investment protection

Administration Workstation

Greater productivity with a single point of system administration and management. Easy monitoring of processor and disk subsystems.

Automatic system recovery and automatic user and application switchover with LifeKeeper software

Total data availability and integrity. Failure protection for the processor subsystems.

LifeKeeper Distributed Lock Manager (optional)

Provides fault detection and data lock management of critical applications

Internal uninterruptible power, redundant power supplies, optional redundant battery backup

Minimal system downtime

NCR WorldMark 5100M

Massively Parallel Processing Server

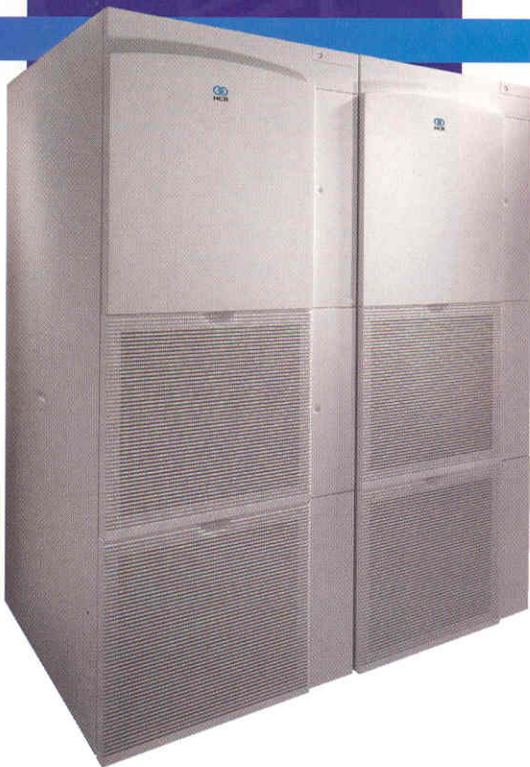
"The WorldMark 5100 offers an extraordinary growth path... With WorldMark, NCR is delivering what many other vendors are attempting to develop."

The Standish Group Int'l
"A Special COMPASS Report"

A hard-working decision support system (DSS) is the keystone of today's most successful companies – and most of those companies use NCR systems. That is because NCR has been in the business longer than any other vendor, and has the largest installed base of customers in the world. That expertise is critical when you are building a Data Warehouse.

The WorldMark 5100M is the massively parallel processing member of the WorldMark Series 5000 family and the leading platform for Data Warehousing. The 5100M also excels in transaction processing. NCR's OLTP solution combines the high performance and availability of the 5100S and 5100C, and the high yield of NCR's BYNET™. You get the best of OLTP and DSS on one highly available and scalable computer.

With the 5100M's linear scalability, as the amount of your data grows, so does the system. Your existing system can be enlarged simply by additional nodes and storage. And all of the growth is manageable with NCR's administration workstation – a single system view of all nodes in the complex.



Features

Benefits

Uses the NCR industry leading SMP technology as foundation

Superior investment protection and cost savings

BYNET enables the interconnection of 128 processor subsystems, with up to 4,096 processors in a single MPP system

High availability, performance and scalability

Administration Workstation

Single point of system administration and management for the entire system

Redundant power supplies, battery backup fans and MPP network

Minimal system downtime

Supports NCR Teradata Database, Oracle Parallel Server, SYBASE MPP and INFORMIX OnLine XPS

Choice of relational database that best meets your needs

LifeKeeper Server Software

High Availability Clusters Minimize Downtime

"NCR's LifeKeeper for NT provides one of the most robust and comprehensive examples of high availability functionality from any commercial server vendor."

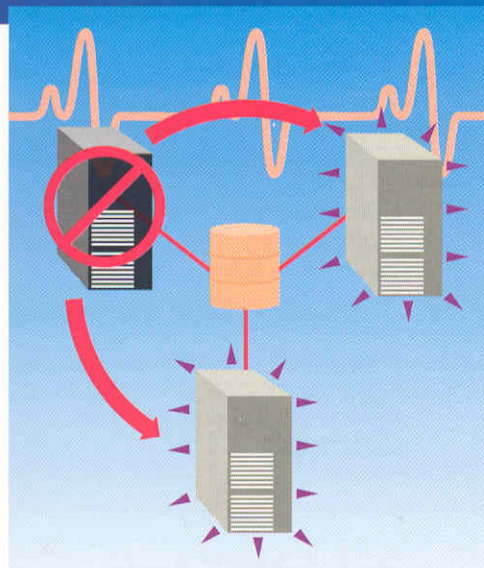
Brad Day

*Vice President and Senior Analyst
Giga Information Group*

LifeKeeper software allows your UNIX or Windows NT servers to be clustered to provide automated recovery of applications and data in the event of failure. LifeKeeper eliminates costly downtime by recognizing hardware component or application faults before a system failure and automatically provides access to an alternate server.

In this way, LifeKeeper sidesteps the high price and low performance of fault tolerant systems. Since there is no need to have redundant hardware sitting idle – all of your clustered systems can be fully active.

NCR's LifeKeeper evolved from software used to protect telecommunications switching systems. It then became one of the first comprehensive clustering solutions for UNIX. And recently, NCR made it the first clustering solution for Windows NT. Together with TOP END, LifeKeeper enables NCR to provide the highest levels of open systems high availability.



If a server or critical component fails, applications are automatically switched to another server.

Features	Benefits
<i>Automatic recovery of applications, databases, communications and basic file access</i>	<i>Increased uptime saves operational costs Less risk of human error during recovery</i>
<i>Software recovery kits</i>	<i>Shorter implementation time since solutions require no software changes</i>
<i>User transparency</i>	<i>Optimum productivity</i>
<i>Support for up to eight nodes on UNIX, three on Windows NT</i>	<i>Maximum flexibility and performance</i>

TOP END

Robust Middleware for High Availability and Data Warehousing Applications

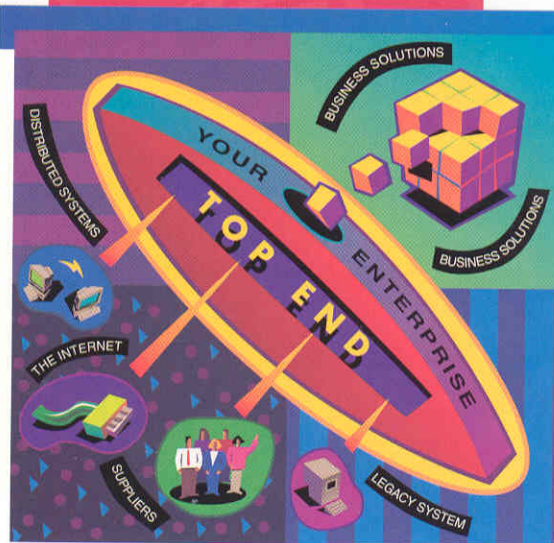
"We view TOP END as a critical part of our application because it gives us confidence to meet our large-scale rollout. I personally believe that TOP END is a jewel in NCR's crown."

David Allen
Chief Database Architect
Reuters

TOP END is NCR's software for robust, enterprise-wide client server environments. It combines the ease of use customers expect from middleware, and the high availability needed to run today's business. With TOP END you can deliver solutions quickly and securely.

TOP END middleware reroutes any transaction following a failure, whether it be in the server, the network, or the application. Working with LifeKeeper for added system protection, TOP END recognizes the myriad of network protocols and message formats associated with different environments, so application developers can focus on your business needs.

TOP END's handling of network connections also enables seamless connection of enterprise computing components. TOP END provides the most comprehensive tools available to centrally manage the unified system.



Features

Benefits

Automatic rerouting of service requests to alternate processors in the event of network or processor failure

- 7 x 24 availability
- No disruption to users
- Lower operational cost, continuous productivity

Scalability to hundreds of thousands of clients, tens of thousands of servers in a single application environment

Enterprise support no matter how large the environment, today or in the future

Global Administration

- Central control of the distributed enterprise
- Single operational view with graphical tools
- Automated software distribution

- Reduced administrative cost
- Problems are diagnosed and addressed quickly by qualified support staff

Automated Redistribution of processing requests to less loaded processors

- Better utilization of available resources
- Consistent, shortest-possible response times

NCR's EMS is a robust electronic messaging infrastructure to transport critical business information, packaged in many formats, securely and reliably among your people and systems worldwide.

The exchange of documents, spreadsheets and presentations, via electronic mail is the lifeblood of most organizations. When a strong messaging infrastructure is in place, the entire workplace gains productivity. NCR's Enterprise Messaging System (EMS) is a robust electronic messaging infrastructure for transporting critical business information, packaged in many formats, securely and reliably among users and systems.

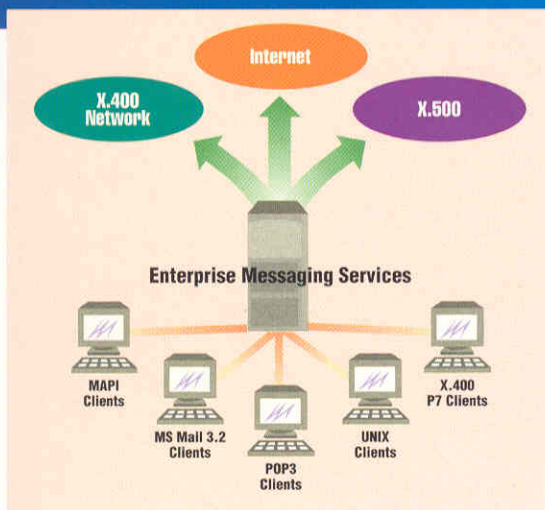
Built on industry-standard components such as X.400, X.500 and Simple Mail Transfer Protocol (SMTP), NCR's EMS integrates products from best-in-class technology partners for a complete solution. It is a premises-based, client/ server solution integrated with electronic mail, electronic commerce, and multi-media message formats that can serve a large, multi-server, multi-site enterprise.

Gateways are provided to interconnect legacy mail systems (host-based or LAN-based) that already exist within your organization. This ensures your EMS can grow and adapt to the emerging technologies and information formats of the future.

With NCR's EMS as your enterprise backbone, and integration of voice and data applications, global messaging is a reality for your business today.

Features

- Internet access via SMTP
- SNMP-based management system integration
- Central administration
- An enterprise directory based on the 1993 standard
- EDI access via the X.435 standard for electronic commerce
- Electronic mail with X.400 native mails or MAPI-based agents
- Messaging Services for X.400, X.500, Internet Mail and Microsoft Mail.
- Applications Programming Interfaces for messaging software development



NCR Enterprise Storage

For Better Performance, Capacity, Manageability and Availability



Series 4 Disk Array Subsystems



6400 Robotic Tape Library



6271, 6272 and 6275 Symmetrix Storage Subsystems

You get faster access to information with external data storage subsystems. NCR offers several storage subsystems models, all of which complement our highly scalable, enterprise WorldMark servers. Whatever your storage needs, NCR provides unprecedented levels of performance, capacity, manageability and availability.

NCR Series 4 Disk Array Subsystems provide fast access to data without compromising integrity for data centers and office LAN environments with large capacity requirements. All Series 4 subsystems deliver fault resilient, high-performance solutions with excellent upgrade flexibility, superior error recovery and fault detection.

The Series 4 module fits industry standard rack mount or is available as the 6255 desktop unit. Each module can support up to 20 drives. For mid-range enterprise customers, the 6257 holds up to three modules. Redundant fan and power supplies are standard, and all key components are hot swappable and field replaceable while the unit is fully operational.

NCR 6400 Robotic Tape Library was jointly developed by NCR and Storage Technology Corporation to meet the demands of our Scalable Data Warehouse and High Availability Transaction Processing customers. The NCR 6400 is the only high speed, open-systems robotics library to mix mainframe and open-systems tape drive formats at the same time – both DLT and 3490E. In less than 16 square feet of floor space, the mainframe-class automated cartridge system offers capacities from 100GB to 11.7TB of data storage.

NCR 6271, 6272 and 6275 Disk Storage Subsystems are offered through an OEM relationship with EMC² Corporation, the industry leading provider of intelligent enterprise storage systems. The 6271, 6272 and 6275 also offer advanced features like SRDF to give you better protection for your data. EMC² disk arrays were specifically designed for the data center and in fact support up to 1.1TB in a single disk array. They bring “mainframe-class” availability to the world of open systems storage.

The Core Memory Project

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