

## your TRANSACTIONS, your TECHNOLOGY, your FUTURE

A critical success factor in today's online transaction marketplace is the ability to continuously process high volumes of transactions. To meet this objective, companies implement application processes that provide continuous availability and unlimited scalability. The hardware platform of choice for these fault-tolerant processing environments is HP NonStop. However, NonStop customers have sometimes had limited choices to create their own networks of distributed applications. In many cases, they have been forced to rely on proprietary solutions that compromised the ownership rights of applications they created. There was not a high-volume messaging middleware solution that allowed companies to create, manage, and own their own networks of distributed application processes.

Baldwin Hackett & Meeks, Inc. (BHMI) developed the Concourse – Transaction Messaging System (TMS) to do just that – to allow companies to build, configure, operate – and own – their own networks of distributed application processes on the HP NonStop platform.



“Consumers, merchants, and financial institutions count on the reliability and availability of the MasterCard Debit Switch, and our goal is to continue being the best in the world,” stated John Meister, Group Head, Global Transaction Processing Systems for MasterCard Worldwide. “A critical component of MasterCard's distributed debit platform is the ability to move an extremely high volume of messages - 24 hours a day, seven days a week, anywhere in the world. Concourse – TMS provides important support because it is a comprehensive, integrated transaction messaging facility that can accommodate our demanding global needs in an open environment”

MasterCard Worldwide

## What is TMS?

TMS is a comprehensive, integrated transaction messaging facility that supports high-volume messaging among multiple disparate application processes that reside on HP NonStop and other platforms. With TMS, companies can move away from proprietary network solutions and have complete control of their application environments. Since TMS provides switching and network communications that connect application processes, it allows companies to build and maintain their own application processes at dramatically lower costs.

## Benefits

- Deploys on HP NonStop Itanium and X platforms
- Provides high volume communication among application processes and communication end points
- Supports multiple virtual networks distributed over disparate sets of shared platforms
- Designed for application-to-application communication across NonStop, UNIX, Linux, and Windows platforms
- Automatically queues messages to application processes and communication links
- Provides extensive configuration options and full support for monitoring and controlling message queues
- Written in a contemporary language and uses a SQL database to store configuration data

# Key Benefits

## Message-Handling Flexibility

TMS provides controlled safe storage of messages so users can ensure successful delivery of critical messages not otherwise protected by application processes. TMS Message Storage can be turned off for less critical messages or those already protected by application logic – thus producing the highest levels of TMS throughput performance. Therefore, reliable message delivery can be combined with blazing performance to give users maximum message handling flexibility.

## Fault Resilience

TMS provides monitoring services for all application processes under its control. TMS's monitoring capabilities include the restarting of application processes in case of process failures. So TMS application processes are automatically fault-resilient. And, of course, restart capabilities are extended to TMS itself, so TMS protects itself as well as the application environment under its control.



## Open-Platform Services

In addition to HP NonStop Itanium and X platforms, TMS has been designed for open-systems deployment. TMS currently supports Linux, and future TMS networks will be extended across Windows and UNIX systems so application processes on these platforms can be integrated with NonStop application components into a seamless TMS networking environment. All TMS functionality available on NonStop platforms will also be available on all other supported platforms – TMS capabilities will transcend hardware boundaries.

## Single Point of Control

TMS offers a single integrated point of control for network system managers. System managers can be attached to any node in a TMS network and can configure and control all facets of the network. And, if an authorized system manager needs to relocate a point of control, that's fine – all TMS networks can be controlled from any network node. Network configuration changes made at any network node are automatically propagated across an entire TMS network. As a result, there is no need to reconfigure network nodes individually.

## PCI-Compliant

In this era of heightened security awareness, TMS is supported by a PCI-compliant network configuration database and operational interface. All configuration database operations are fully audited for security reviews. All user logons are managed in accordance with PCI-compliant guidelines.

## Distributed Virtual Networks

TMS accommodates multiple TMS environments that can be distributed across disparate sets of shared platforms. Each TMS environment defines a virtual network that can be safely configured and managed from a single integrated point of control. This feature allows changes to be selectively and automatically distributed across individual networks without affecting other managed TMS networks. This ability to support multiple independent TMS networks dramatically simplifies the task of running production and test networks across the same set of host platforms.

## Message Processing Flexibility

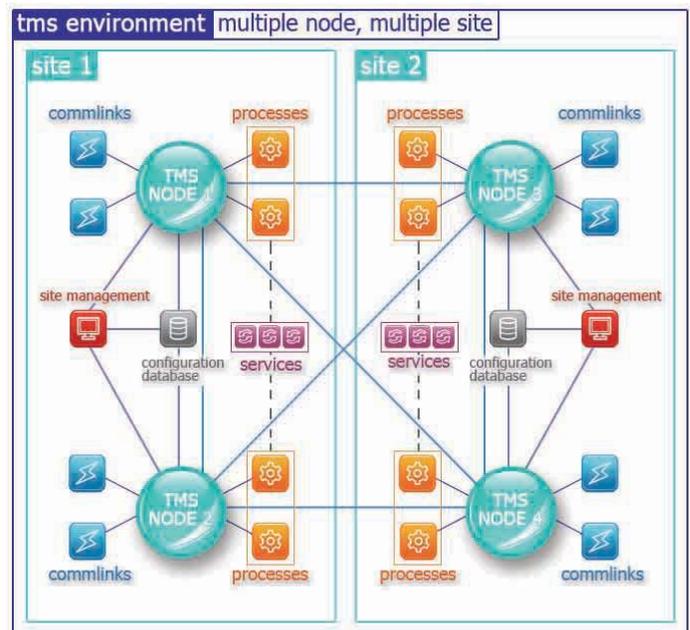
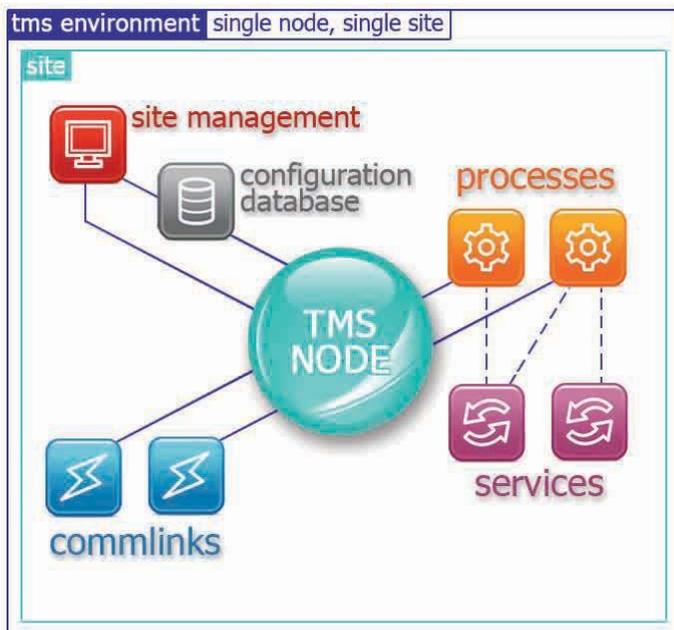
TMS allows multiple application process instances to be configured as providers of one or more services. TMS service-based message routing can then direct a message associated with a given service to any of the processes providing the service. As a consequence, multiple process instances are available to handle a given message type. And, since TMS provides load balancing across process instances, bottlenecks are minimized and overall message throughput is increased.

## Enhanced Message Queuing

TMS automatically queues messages to application processes and communication links to accommodate the varying rate at which they are able to process traffic. TMS also provides extensive configuration options including automatic queue load management as well as full support for monitoring and controlling all message queues.

### How Does TMS Work?

A complete instance of a TMS-based application executes in a TMS environment, which defines a single virtual network. A TMS environment can span multiple computer systems, each of which is defined as a TMS site. The same physical computer can host multiple TMS environments and sites. Each site has one or more nodes, where a node provides message routing and queuing facilities to its associated processes and commlinks; the node also provides support for the site's services. Processes can participate in zero or more site services, and site services can be supported by one or more processes. Site services can also be supported by processes on other nodes/sites. Therefore, there is no architectural limit on the number of sites within an environment.



# Features Summary

## Message-Handling Flexibility

- High performance
- Controlled safe storage of messages

## Message Processing Flexibility

- Service-based message routing allows multiple process instances to handle messages, thereby minimizing bottlenecks and increasing overall message throughput
- Supports load balancing across network entities

## Distributed Virtual Networks

- Separate logical TMS networks can be configured across shared platforms
- TMS integrated point of control can propagate changes across a single TMS environment without affecting other TMS environments that share the same host platforms
- System managers can safely reconfigure test networks without affecting other test or production networks

## PCI-Compliant

- TMS network configuration database and operational interface are PCI-compliant with full auditing of all configuration database operations
- TMS user logon management is PCI-compliant

## Fault Resilience

- Auto-restart of TMS networked application processes
- Auto-restart of TMS network nodes

## Single Point of Control

- Authorized system managers can control a TMS network from any node in the network
- Network control functions automatically propagate network configuration changes across an entire TMS network so there is no need to reconfigure network nodes individually

## Open-Platform Services

- Future releases of TMS will seamlessly integrate application processes on disparate platforms into an integrated TMS networking environment

## Enhanced Message Queuing

- Automated message queuing to processes and communication links
- Extensive queuing configuration options
- Full support for queue monitoring and control

Product Capabilities	TMS
Message routing	X
Message queuing	X
Message service definition and routing	X
Message tracing	X
Data communications support	X
Secure online system configuration	X
Secure online system management	X
Security auditing	X
Automated restart of failed components	X
PCI security compliance	X
Supported on the latest HP NonStop platforms	X
Modern product	X
Configurable status reporting	X
Full featured API for application integration	X
Designed for heterogeneous platforms	X
Automated configuration change management	X
SQL configuration database	X

\*All product names are trademarks of their respective companies.

## Gain Full Control of Your Transaction Processing Environment

Concourse – TMS is a transaction messaging middleware solution that gives you the opportunity to move away from proprietary network solutions that you cannot fully control to software application networks that you own without restraint. TMS significantly reduces the cost and complexity of this approach because it provides the switching and network communications that will safely and securely transport transactions across all your application processes.