

# MIDDLEWARE SUITE.

## NETWORK COMPUTING INTERFACE



The Application Integration Middleware Network Computing Interface (NCI) is a middleware product that provides services for application integration. It combines different communication protocols (e.g. TCP/IP, SSL, LU 6.2, HTTP, HTTPS, ...) and products (e.g. MQSeries, CICS, IMS, DB2, SAP) with easy to use programming interface.

#### The product is available by following modules:

- Application Programming Interface (NCI/API)
- Communication Manager (NCI/CM)
- MQSeries Utilities (NCI/MQ)

#### Benefits

- Increased productivity – allows very fast implementation of integration solutions
- Shields the user from complexity of product interfaces and communication protocols
- Uniform and common API, independent from operating system and programming language
- Enforces standards and flexibility for operation by uniform error handling, symbolic addressing and external configuration
- Enhances product functionality, i.e. security, compression and a pseudo-synchronous programming paradigm for MQSeries
- Offers the possibility to replace middleware components with very little effort

#### Application Programming Interface (NCI/API) Modul

Providing a common user interface is independent from the communication protocol, the programming interface of a product, the operating system and the programming language. The complexity of many different interfaces is hidden. Application developers don't need any protocol or product-specific know-how to build robust and powerful n-tier client/server or Web-solutions. It also offers enhanced features like data encryption (DES, 3DES), data compression, and data conversion (ASCII/EBCDIC/... codepages).

The Symbolic Addressing Feature of the NCI/API allows to define application specific parameters (e.g. Queue names, IP addresses, LU names, trace options, error processing options, ...) outside of the application by using an NCI sideinformation file or environment variables.

The NCI/API is also available as Pure Java Interface and provides communication services based on TCP/IP and MQSeries. It can be used on the client side (Java Applet or Application) as well as on the server side (Java Servlet, Java Server Pages or Enterprise Java Beans). The NCI/API Pure Java Interface is shipped as a Java Bean and can be used by visual builder tools to build applications visually.

NCI currently supports the following protocols and product interfaces:

- TCP/IP & TCP/IP SSL (Secure Socket Layer)
- HTTP, HTTPS
- SNA LU 6.2
- MQSeries Interface (MQI)
- CICS Interface (EXCI)

- IMS Interface (APPC)
- DB2 Interface (CAF, RRSAA)F
- SAP Interface (RFC)
- SMTP (Simple Mail Transfer Protocol)

NCI is supported under the following programming languages:

- C/C++
- PL/1, Cobol
- Java, SmallTalk
- Visual Basic, ABAP
- zSeries Assembler, REXX

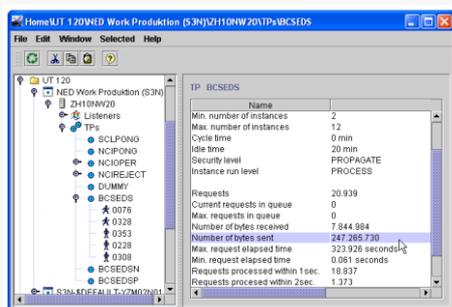
### Communication Manager (NCI/CM) Modul

Providing a dynamic process- and thread-management that automatically starts and stops server instances depending on the current load. NCI/CM is able to handle platform- and application-specific security policies.

In addition to that, the Communication Manager for z/OS provides the functionality of an MQSeries Trigger Monitor.

The NCI/CM Gateway Services and the NCI Web Server PlugIn for z/OS offer transparent access to z/OS legacy applications from n-tier and Web computing environments in a highly performing and scalable way. Both allow combining object and Web technology with traditional legacy applications.

For monitoring purposes, NCI/CM includes the Java based Control Center as central administration tool. It can be used on a variety of platforms like Windows or Unix.



The NCI/CM Module includes:

- software developed by the OpenSSL Project for use in the OpenSSL Toolkit.  
(<http://www.openssl.org/>)  
includes cryptographic software written by Eric Young (eay@cryptsoft.com)
- software written by Tim Hudson (tjh@cryptsoft.com)
- software developed by the Apache Software Foundation  
(<http://www.apache.org/>)

### MQSeries Utilities (NCI/MQ) Modul

Providing MQSeries Extensions for enhanced security and asynchronous file transfer utilities based on MQSeries message queueing.

MQSeries Extensions for enhanced security are based on MQSeries security exits and provide services to protect queue managers from:

- unauthorized access from other queue managers
- unauthorized access from MQSeries clients

For MQSeries clients an additional application-level-security is supported.

### Related Services

Porting of the package to other platforms on demand.