

Transaction-Based Processing Suite

The framework to leverage mainframe, and other back-end data, into modern applications

- Reduce design and development time
- Increase application efficiency
- Improve problem resolution and reduces downtime
- Increase application portability



According to current market estimates, over 70% of critical corporate information remains available only through mainframe and midrange connections. What this means for application developers is clear: Successful implementation depends on fast, reliable host links. The traditional developer uses either error-prone screen scraping or difficult API programming (e.g. HLLAPI, CPIC, LU 6.2) to access host data. Today's developer is looking for more efficient, cost-effective techniques to access mainframe, and other back-end data, that eliminates the need for specialized programmers and utilizes modern development environments.

Cleo's Transaction-based Processing™ is a new approach that allows a developer to automatically capture an entire set of host interactions and quickly encapsulate them into transactions (e.g. Get_Account Balance, Get_Last_Deposit). These transactions can then be used from most development environments including Web Services, Voice XML, Java, Visual Basic and .NET. There is no longer a need for complex API programming. A design flow that addresses the issues at the "transaction" level is easy to construct and implement.

Transaction-based Processing offers increased application efficiency, enhanced application portability features, expanded system administration and reduced development and debugging time. It does this through the combination of an easy-to-use Transaction Designer and powerful run time Transaction Processor.

At a Glance

- Design and development time are significantly reduced. The designer does not need host programming experience.
- Mainframe programming skills are in short supply; eliminating this requirement allows you to utilize your existing resources.
- Increases efficiency of the application and the host interaction - replaces multiple calls to an API interface to individual screens with a single transaction call.
- Build or update host interactions offsite. Improves problem resolution and reduces downtime.
- Increases application portability - once an application is built, only the transactions need to be tailored to a particular customer's host system.
- Provides a direct interface to Java, JSP, VB, Jbuilder, ASP and VoiceXML. Supports TN3270E/5250, XML and WebServices protocols.
- Manages all issues required to keep communications flowing to & from the host.

Transaction Designer

Transaction Designer is a Windows desktop tool that enables developers to access a host application, automatically record screens and keystrokes, and combine these into transactions using an easy-to-use graphical user interface (GUI). The transactions contain all the information necessary to interact with a set of host display screens (3270/5250). The capability to start and stop automatic recording of host screens is provided. Each recording clip includes a representation of the host screen contents, keyboard input and the AID key used to navigate to the next screen.

Because of its ease of use, developers can construct complete transaction sets in a few hours rather than the several days required when using API interfaces. This simplifies the development process that in turn leads to reduced development time and higher reliability.

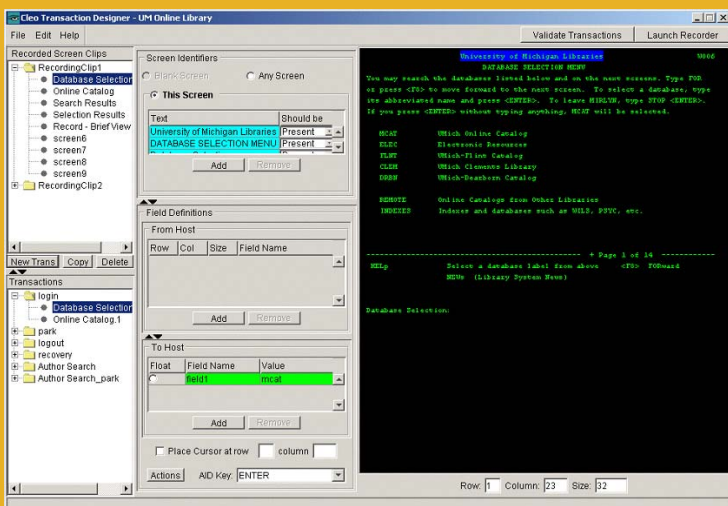
Transaction Designer provides the ability to test the transaction as soon as it's created through the "Validator." The immediate testing of a newly designed transaction gives instant verification of a correct design and significantly reduces testing time. Once a set of transactions is created, it is published in XML format as a transaction set for later use by Transaction Processor. Although the transactions are created on Windows, the published XML transactions may be run on practically any operating system - Windows, Linux, or Unix.

Key Features

- Recording capability to run host emulators and record screens required for host navigation;
- A display of recorded screens with input fields highlighted;
- A means to create/modify host transactions for each transaction set, such as "Login," "Logout," "Recovery," "Park," or a user-specified name;
- A means to save screen definitions and host transactions to files in a specific XML or VoiceXML format, for use by the Cleo Transaction Processor;
- A "Validator" for testing the transaction once it is created.

Transaction Designer Requirements

Operating System Requirements:
Windows 2000 / 2003 or XP



As the user runs the mainframe application, the Transaction Designer records all the host screens and keystrokes. Once the screens are recorded, transactions can be built offline.

To create a transaction, the developer selects the relevant screens from the recording set, creates identifiers for each screen, designates input and output fields and publishes the final transactions.

Selecting identifiers is accomplished simply by highlighting, no more counting rows and columns and building individual API calls.

Transaction Processor

Transaction Processor is the run-time module that manages all the host sessions and executes the stored XML transactions created with Transaction Designer. The Transaction Processor provides access to 3270/5250 mainframe, or other back-end data, from Web Services, a Java application, a VoiceXML application, ActiveX applications such as Visual Basic 6.0 / .NET application, Visual Basic for Applications (VBA) macro, or an ASP page. It can run on most major operating systems such as Windows, Linux, and Solaris.

Transaction Processor runs as a service on Windows and a daemon on UNIX. The user application invokes Transaction Processor functions provided in the software development kit. When a transaction is run, the Transaction Processor uses the XML definition of the transaction to interact with the host server for accessing mainframe data. The transaction XML files were previously stored in the Transaction Sets directory by the Transaction Designer (TD).

Transaction Processor makes the initial host connection, pools all sessions, manages the pool of sessions, restarts "hung" sessions, executes individual transactions, and, in general, manages all issues required to keep all sessions active and communications flowing to and from the host. The Transaction Processor provides dynamic failover in multi-server configurations.

The Transaction Processor Configurator and Administrative modules serve both as configuration and administration tools. The Configurator sets the options and resources required by Transaction Processor. The Administrator allows the user to view status of sessions and to view, search, and purge the log and statistics files.

The Transaction Processor has several pre-defined functions for each customer's environment. Functions that are already programmed in Transaction Processor include calls such as Reserve Session, AddInput, RunTransaction, GetOutput, Release Session.

Transactions are stored and invoked from Web Services, Voice XML, Avaya SAB, Nuance, Genesys GVP, Java and other application development tools.

The Cleo Transaction development kit is composed of:

- Transaction Designer (TD) - records screens and creates transactions.
- Transaction Processor (TP) - processes the transactions in real time and provides the basic API functions.
- Administration GUI - provides a Configuration tool and an Administration tool for the Transaction Processor.

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Configurable Options

- Auto Recovery – attempt to recover the session and get it back to a parked state once all user-defined recovery attempts have been made;
- Time Out - the maximum amount of time to wait for a host screen;
- Interlogin Gap - the number of seconds between startup and subsequent logins;
- Maximum Recovery Tries - maximum number of user-defined recovery attempts;
- Recovery Retry Intervals and Wait Time – maximum time a session can remain in one state before it is put into recovery;
- Shutdown Time - time allotted for session startup or shutdown.

Transaction Processor Requirements Supported Operating Systems:

- Windows 2003 Server, Windows 2000 Server
- Red Hat Linux
- Solaris

Requirements for Windows

- Microsoft's .NET Framework, Version 1.1
- Java 1.4 + (Java VM)
- Both Java VM and .NET Framework are included on the Cleo Transaction Processor Installation CD.
- Server with Network Card/Modem
- 2 GB RAM

Requirements for Solaris

- Sun Sparc, Version 5.7 or greater
- Java 1.4+ (Java VM)
- 30 MB HD
- 2 GB RAM

Requirements for Linux

- Red Hat Enterprise Linux server 3.0 or Greater
- Java 1.4+ (Java VM)
- Linux server (P4 or equivalent)
- 2 GB RAM

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