



WHITE PAPER

# The UniKix Batch Processing Environment Software Advantage

Copyright © 2010 Clarity Solutions, Inc.  
9930 Derby Lane, Suite 202. Westchester, IL 60154, U.S.A.

All rights reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and decompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of Clarity Solutions, Inc. and its licensors, if any.

Clarity and UniKix are trademarks or registered trademarks of Clarity Solutions, Inc. in the U.S. and other countries.

IBM, AIX, CICS, DB2, IMS, Omegamon, QMF, RACF, System z, Tivoli, WebSphere, z/OS, and z/VSE are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. All other marks are the property of their respective owners.

# Table of Contents

- Introduction ..... 4
- 1. Evolutionary path forward..... 5
- 2. Flexible JCL maintenance options ..... 6
- 3. Built-in integration with common IBM and third-party mainframe utilities and products ..... 7
- 4. Native support for multiple standard mainframe data file types and programming languages .... 9
- 5. Robust management and reporting functionality; support for job prioritization and classes ..... 10
- 6. Job restart capabilities at the job step and proc step level ..... 11
- 7. Support for multiple development and operational environments ..... 11
- 8. Comprehensive, worldwide support options..... 12
- Why leverage UniKix BPE software? ..... 13
- For more information..... 13

# The UniKix Batch Processing Environment Software Advantage

## Introduction

UniKix™ Batch Processing Environment (BPE) software provides a comprehensive, native framework for administering, executing, and managing batch workloads on open systems – bringing the best aspects of mainframe job management to cost-effective, distributed systems in an open and extensible framework. With comprehensive Job Control Language (JCL) translators, pre-built integration with common mainframe batch utilities, and support for standard mainframe data file types and application programming languages, UniKix BPE enables batch application investments to be safely leveraged on open systems without excessive code change or complex integration requirements.

A mature and robust solution, UniKix BPE software is backed by over 16 years of experience, detailed documentation guides, and worldwide support. UniKix BPE software customers benefit before, during, and after a migration by deploying this robust mainframe rehosting environment. Compared to alternative migration approaches which re-implement business procedures and environmental variables or run in an emulated mode, UniKix BPE software from Clarity delivers an affordable, code-efficient, and highly-manageable production environment for valuable batch assets.

Key advantages of UniKix BPE technology include:

- *Evolutionary path forward*  
UniKix BPE software can be leveraged to quickly and efficiently migrate COBOL, PL/1, Natural, and related batch application code; organizations can choose to continue programming in JCL or move to standardized shell scripts over time, depending on internal skill sets and strategic corporate direction. UniKix BPE can also support new applications developed in languages such as Java and C#.
- *Flexible JCL maintenance options*  
UniKix BPE software supports both IBM® z/OS® and IBM® z/VSE® environments, delivering streamlined, manageable solutions with minimal migration time. Users have the option to continue maintaining the original JCL or to move to a shell script and macro environment on the new target platform.
- *Built-in integration with common IBM and third-party mainframe utilities and products*  
Pre-built integration with common IBM and third-party supplied application utilities and products enables UniKix BPE technology to automate a large percentage of the integration efforts commonly associated with migrating ‘utility-rich’ (i.e. sorting, printing, reporting...) batch environments.
- *Native support for multiple standard mainframe data file types and programming languages*  
With native support for sequential files, Generation Data Groups (GDGs), Concatenated Data Sets, and other standard mainframe data types, as well as integration with common

application languages such as COBOL, PL/1, C, C#, Java, and Natural, UniKix BPE software assisted migrations mean less data conversion work, lower complexity, and fewer changes to customer code than other options.

- *Robust management and reporting functionality; support for job prioritization and classes*  
UniKix BPE software provides a familiar way to get what is needed in terms of process tracking, monitoring, and reporting. This functionality does not have to be reengineered during migrations with UniKix technology.
- *Job restart capabilities at the job step and proc step level*  
UniKix BPE software provides job restart capabilities at a job or proc step level, allowing data sets to be rolled back to the point that the step originally executed.
- *Support for multiple development and operational environments*  
UniKix BPE software provides a choice of development and operational environments, ensuring that users from a variety of backgrounds can confidently manage UniKix BPE environments after a migration is complete.
- *Comprehensive, worldwide support options*  
Organizations with stringent Service Level Agreements (SLAs) agreements can select the support level agreement appropriate for their particular business requirements.

The rest of this paper discusses these UniKix BPE software advantages in more detail.

## 1. Evolutionary path forward

JCL was originally developed on mainframes to provide a comprehensive framework in which to manage and prioritize batch job tasks. With UniKix BPE software, there is no need to re-implement these complex batch processes and procedures during a mainframe migration to open systems. UniKix BPE software offers organizations the option of continuing to program in familiar JCL syntax or of translating JCL into scripts which can be maintained moving forward.

For many customers, the ability to continue utilizing time-tested JCL on a cost-effective platform is a welcome option. This approach preserves valuable business logic and irreplaceable human skills and programmers can continue to maintain, develop and submit jobs from a familiar ISPF interface.

Because UniKix BPE software translates JCL into to scripting language that is executed natively on the target migration platform, customers also have the option of discontinuing JCL syntax use after a migration is complete. Programmers can begin introducing shell scripts and new functionality into a rehosted UniKix BPE region and evolve coding standards over time to meet changing priorities and new IT skill sets.

## 2. Flexible JCL maintenance options

With UniKix BPE software, IBM z/OS environment and IBM z/VSE environment JCL code is either dynamically translated at runtime, or ahead of time using UniKix BPE software tools, instead of being re-implemented. Compared to approaches which re-implement JCL operations, utilities, and environmental variables into scripts during a migration and increase the volume of directives a customer needs to maintain post migration, the UniKix approach delivers streamlined and manageable code on the new target platform.

Maintaining the translated script is a definite option for users as the UniKix BPE translators replaces common JCL syntax largely on a one-for-one code line basis, enabling efficient application migration. When alternative approaches are used that re-implement JCL procedures and variables, five to ten times the number of extra lines of code (LOC) may be generated to address functionality and environmental variables previously handled in JCL. When environmental variables need to be changed post-migration under the UniKix approach, administrators can make necessary adjustments once from the UniKix BPE software administration tool console instead of having to go through all lines of application code and make required changes everywhere a particular variable is referenced.

### JCL code example

Alternative migration approaches that re-implement JCL utilities and variables can take the simplest job and turn it into a significant coding and maintenance challenge. Take, for example, a simple job "JOB00289." JOB00289 is a four step JCL program executing the following activity on a mainframe:

- The first step defines where programs are to be retrieved, then executes an IDCAMS step.
- The second step is a procedure passing some parameters which are overridden in the JCL.
- The third step uses IEBGENER to copy output from the previous step to the internal reader.
- The fourth and final step executes a COBOL program passing parameters, with a GDG, VSAM, and sequential file used as input.

As shown in Table 1, *Comparison of IBM z/OS Environment, UniKix BPE Software, and Re-Implemented Translation*, this activity takes 35 LOC in the original IBM z/OS environment JCL, 33 LOC in the UniKix BPE software environment, and 244 LOC using a re-implementation approach. Nearly 600% more code is generated in order to complete this task under the re-implementation approach.

**Table 1.** Comparison of IBM z/OS Environment, UniKix BPE Software, and Re-Implemented Translation

	Original IBM z/OS environment JCL	JCL Translated with UniKix BPE software	Re-implemented approach
Total Lines Of Code (LOC)*	35	33	244
% LOC versus original JCL	100% (same)	95%**	597%

\* In these examples, actual source code lines were counted - not comments, spaces etc.

\*\* UniKix BPE software results in few LOC than the original JCL because it consolidates lines when executing a procedure.

A large amount of new code has to be generated to address required environmental variables under the re-implementation approach, however such functionality exists out of the box with UniKix BPE software.

### 3. Built-in integration with common IBM and third-party mainframe utilities and products

A large percentage of mainframe batch workload processing time involves interacting with common IBM mainframe utilities such as IDCAMS, IEBGENER, and IEBCOPY, in addition to third-party solutions such as sort utilities, job schedulers, and print spoolers. Database connectivity and sort utilities are often tightly coupled to mainframe application code; loosely coupled activities such as print spooling and job scheduling also consume large portions of mainframe compute cycles. Thus, support for both types of activities needs to be built-in at runtime in order to run efficiently.

With built-in integration for both tightly and loosely coupled application utilities, UniKix BPE software automates a large portion of the integration efforts commonly associated with migrating batch environments to open systems.

- UniKix BPE software, being a complete batch environment, supports relational databases such as IBM® DB2® for Linux, UNIX and Windows (LUW), Microsoft SQL Server, Oracle Database, and Sybase.
- Sort utilities such as SyncSort DMExpress and IRI CoSort are supported out of the box with optimized integration options.
- Common business intelligence and report generation solutions and languages such as CA-Easytrieve Plus, FOCUS for UNIX, and SAS can be retained on open systems without transforming source to another language.
- UniKix BPE software provides integration with all the major print output management solutions via post-exec scripts. Supported solutions include Levi, Ray & Shoup VPSX, LBM Systems AXIAR, Macro4 Columbus OM, Isis Papyrus, and ASG Cypress Suite.
- UniKix BPE software has integrated scripts for all major distributed job schedulers, including BMC CONTROL-M, CA-Autosys, IBM® Tivoli® Workload Scheduler, Tidal Enterprise Job Scheduler, and Orsyp Dollar Universe. UniKix BPE technology is also extensible to support other print distribution facilities or job schedulers through standard user exit procedures.
- Messaging support is available within UniKix BPE software through integration with IBM WebSphere MQ Series.

The script extract provided in Figure 1, *Example UniKix BPE software and Levi, Ray and Shoup VPSX Script Extract*, is just a portion of an example post-exec script supplied with UniKix BPE software. This script provides integration between a UniKix BPE environment and the VPSX print output management solution from Levi, Ray and Shoup, Inc. (LRS). This example details the complex, pre-built scripts that

have already been developed for UniKix BPE software to address loosely-coupled utility requirements; functionality that would need to be recreated from scratch with a re-implemented approach.

**Figure 1.** Example UniKix BPE software and Levi, Ray and Shoup VPSX Script Extract

```
#!/bin/ksh
*****#
#*                                     *#
#* Copyright (c) 2010 by Clerity Solution, Inc.           *#
#* All rights reserved.                                   *#
#*                                     *#
#* *****#
#                                     #
#                                     #
# Name:          post_exec_pgm.LRS                       #
# Purpose:       Submit a print request to LRS's VPSX product #
#               using the VPSX lrsq command for adding entries to the #
#               print queue.                                #
#               #
#               If using the LRS VPSX product,            #
#               $PUBLIC/bin/post_exec_pgm must point to this script. #
#               #
#               This script is invoked at the end of each job step to determine #
#               if there are sysout datasets to be printed. For each of the #
#               SYSOUT datasets generated in the current step, it formats and #
#               executes the LRS's VPSX lrsq command based on environment #
#               variables set in the batch job script      #
#               #
#               The format of the VPSX print request command is: #
#               #
#               lrsq /[option][=|:][value]                #
#               #
# where: #
# #
# /File=name      usage      : Specifies the full pathname of the #
#                   file(s) to be printed                    #
# /Queue=name     usage      : Specifies the name of the VPSX printer that #
#                   should receive this output                #
# /Copies=<n>     usage      : Specifies the number of copies to be printed. #
#                   default   : 1                             #
#                   JCL source : The DD or OUTPUT COPIES parameter #
#                   #
# /Hold=Y|N      usage      : Sets print file status to Held; it will not #
#                   : be processed until manually released   #
#                   default   : N - no hold                  #
#                   JCL source : DD HOLD parameter           #
#                   #
# /FORMDEF=form  usage      : Specifies the paper type, or forms to be used #
#                   default   : standard printer default     #
#                   JCL source: SYSOUT DD parameter or OUTPUT FORMS parameter #
#                   #
# /Prty=<1-255>  usage      : Specifies the priority of the print request. #
#                   default   : 10                            #
#                   JCL source : OUTPUT PRTY parameter       #
#                   #
#               Note: VPSX supports a priority range of #
#                   1 through 255, with 255 representing the highest #
#                   priority. z/OS JCL supports 0 through 255. If #
#                   the OUTPUT PRTY parameter specifies a value #
#                   greater than 255, or 0, the priority is set to 10. #
#                   #
# The lrsq command includes other options that are not strictly related to #
# z/OS JCL. This script may be modified to include these options. Refer to #
# the VPSX User's Guide for a complete description of the lrsq command. #
*****#
```

Not only does UniKix BPE technology's native support for mainframe utilities and third party software enable efficient migrations, the high level of integration with IBM mainframe and third-party utilities built into UniKix BPE technology also enables Independent Software Vendors (ISVs) looking to deploy

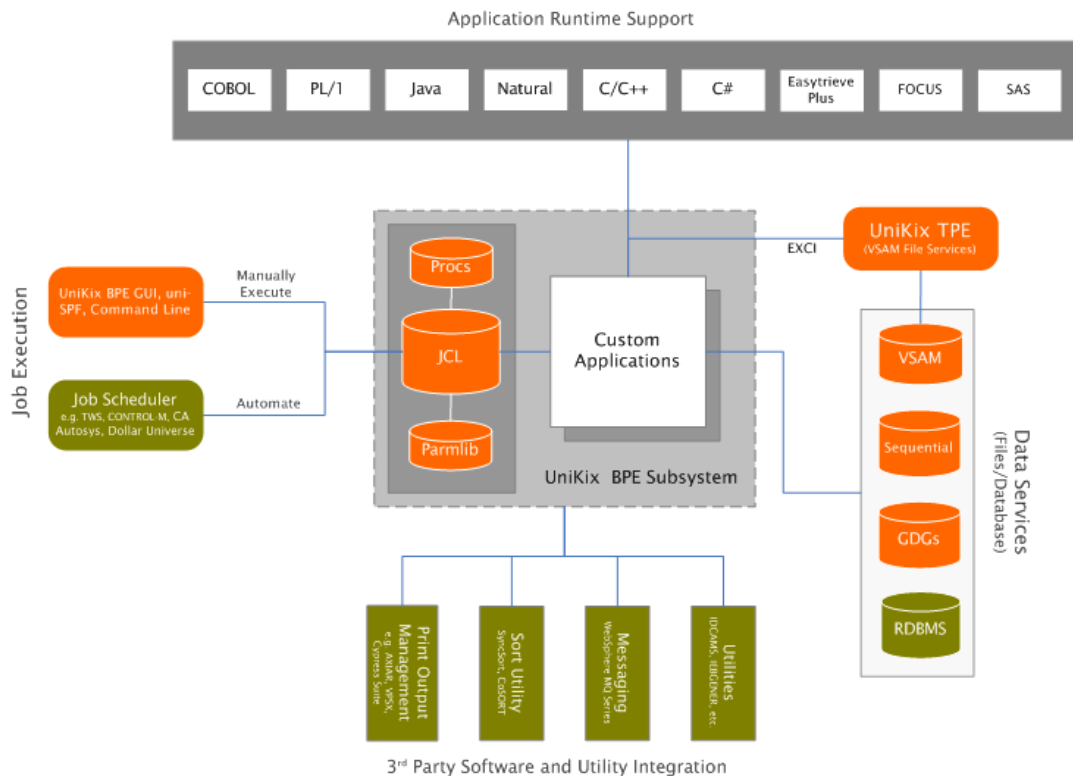
mainframe business applications on open systems to maintain one code base for applications on both platforms going forward.

## 4. Native support for multiple standard mainframe data file types and programming languages

As depicted in Figure 2, *UniKix BPE Software Integration and Support*, UniKix BPE software supports standard mainframe data file types such as sequential files, GDGs, and Concatenated Data Sets. Thus, manual conversion work in this space is minimized.

If a solution that does not support data file types such as GDGs and concatenated data sets is implemented in a scenario where applications are designed to use these features, a migration cannot be completed without either re-implementing current source code or reinventing such functionality on the new target platform. Without the logic found in UniKix BPE software to address these data file types, data file iterations may be collected into one large file. This could potentially consume more disk space and compute cycles on a target system since the data would need to be handled during every job step attempting to read the files.

**Figure 2.** UniKix BPE Software Integration and Support



## 5. Robust management and reporting functionality; support for job prioritization and classes

Compared to a re-implemented approach which lacks a complete batch environment to interface with, UniKix BPE software provides a comprehensive and familiar way to get what is needed in terms of process tracking, monitoring, and reporting.

As illustrated in Figure 3, *UniKix BPE Software Completed Jobs Records Screenshot*, UniKix BPE software includes a powerful monitoring, reporting, and administration environment that does not exist with alternatives. UniKix BPE technology also provides default accounting information about jobs, as illustrated in Figure 4, *UniKix BPE Software Job Listing Screenshot*. This information can be tailored and fed into chargeback solutions such as IT Charge Management from SAS. UniKix BPE is extensible to provide alert, state, and status information to popular system management facilities, such as HP OpenView Operations Manager, Microsoft SystemCenter, or BMC Patrol.

**Figure 3.** UniKix BPE Software Completed Jobs Records Screenshot

Job	Job Name	Status	User	Ended At	Size
59	FOC01MFR	Cancelled	mtpadm	2007/04/03.15:11:15	532
58	FOC01MFR	Terminated	mtpadm	2007/04/03.15:08:22	2262
57	FOC01MFR	Terminated	mtpadm	2007/04/03.14:41:49	2262
56	FOC02MFR	Aborted	mtpadm	2007/04/03.14:36:50	1997
55	FOC01MFR	Terminated	mtpadm	2007/04/03.11:23:28	2262
53	FOC01MFR	Cancelled	mtpadm	2007/03/21.16:04:07	532
52	FOC01MFR	Terminated	mtpadm	2007/03/21.16:01:12	2262
51	FOC01MFR	Terminated	mtpadm	2007/03/20.09:55:47	2262
50	FOC01MFR	Terminated	mtpadm	2007/03/20.09:53:29	2262
49	FOC01MFR	Terminated	mtpadm	2007/03/20.09:37:29	2262
48	FOC02MFR	Aborted	mtpadm	2007/03/20.09:32:50	1997
47	FOC01MFR	Terminated	mtpadm	2007/03/19.16:39:48	2262
46	FOC02MFR	Aborted	mtpadm	2007/03/19.16:35:55	1997
45	FOC01MFR	Terminated	mtpadm	2007/03/19.16:30:49	2262
44	FOC01MFR	Terminated	mtpadm	2007/03/15.08:50:00	2262
43	FOC02MFR	Aborted	mtpadm	2007/03/15.08:48:17	1997
42	FOC01MFR	Terminated	mtpadm	2007/03/02.10:29:38	2262
41	FOC01MFR	Terminated	mtpadm	2007/03/02.10:23:54	2262
40	FOC01MFR	Terminated	mtpadm	2007/03/02.10:09:55	2262
39	FOC02MFR	Aborted	mtpadm	2007/03/02.10:05:51	1997

As illustrated in this screenshot, UniKix BPE software shows job information from an active job log. Information about these jobs can be queried and analyzed from a single GUI window.

**Figure 4.** UniKix BPE Software Job Listing Screenshot

```

Job Name      FOC01MFR
Job Number    58
Elapsed Time   19.85 (sec)
CPU Time       0.91 (sec)
User Time      0.28 (sec)
System Time    0.63 (sec)
Started at     2007/04/03.15:08:02
Ended at       2007/04/03.15:08:22
User Name      mtpadm
Job Class      a
Job Status     Terminated
Subsystem Name mfracu

FOCUS 6.9 <UNIX> CREATED 10/21/01 6107.10
>>>>>>

NUMBER OF RECORDS IN TABLE= 175 LINES= 88
FOC01MFR(58) LFD630 STEP0001 MA2517 (I) starting
(I) /tmp/sysoutdir/FOC01MFR/J50010_STEP0001/PRNT001_58 SYSOUT

VPSX interface starting at: Tue 03 Apr 2007 03:08:21 PM MST
SYSOUT DDNAME PRNT001
dest      : PHX03P1
forms     : <default>
lines     : <default>
copies    : 1
priority  : <default>
filename  : /tmp/sysoutdir/FOC01MFR/J50010_STEP0001/PRNT001_58
Successful Print Request

Number of outputs generated for ddname PRNT001 : 1
    
```

As illustrated in this screenshot, UniKix BPE software provides details about the information available on particular jobs. This information can be fed into accounting and reporting software as well as other statistical packages.

Support is provided in UniKix BPE software for common batch features such job prioritization and classes. For instance, from the administration console a system administrator may assign threads to run high priority workloads.

## 6. Job restart capabilities at the job step and proc step level

UniKix BPE provides job restart capabilities at a job step or proc step level. If the job step is invoking a proc, one can specify the proc step within the proc to restart. Administrators can use the -r option of the subjob/unikixjob commands to restart at a step or label name, or automatically restart the job/proc step through a third-party job scheduler.

UniKix BPE also provides a utility that performs rollback activities for all GDG occurrences and new files created during job execution, allowing any data sets that were changed subsequent to the job/proc step to be restarted, to be rolled back to the point that the step originally executed.

## 7. Support for multiple development and operational environments

UniKix BPE software has the benefit of over a decade of deployment and implementation experience. UniKix BPE software administrators are equipped with a complete Graphical User Interface (GUI) and a Command Line Interface (CLI), as well as a robust set of product documentation. As shown in Figures 5 and 6, UniKix BPE software is also integrated with The Workstation Group's uni-SPF solution. Clarity uni-SPF Extended for UniKix software provides an ISPF-based development environment where users can develop, test and manage batch based applications in a similar fashion to the mainframe.

For administrators, there is less disruption and training time required to become comfortable working with UniKix BPE technology, since it is a known framework. Administrators benefit from the documents, training, and support services Clarity personnel offer and are able to learn this environment from time-tested training courses instead of customized, one-off manuals or guidelines.

Figure 5. Clarity's uni-SPF Extended for UniKix main menu

```

USR0000 ----- uni-SPF Main Menu -----
COMMAND ==>

0  Perms          - Modify ISPF parms          uni-SPF Version 1.70.1
1  Browse        - View an Existing File    (c) Copyright 2008
2  Edit          - Edit an Existing File    Clarity Solutions, Inc.
3  Utilities     - Other file utilities
4  Foreground   - Foreground jobs          User: unikix
5  Background   - Background jobs          Date: 04/03/09
6  UNIX         - Execute UNIX commands    Time: 10:27:03
7  Restricted   - Authorized users only     SID: mfrfa
8  Program Menu - Checkout, compile programs, maps etc
9  File Menu    - Menu of Commonly Used Files
A  BPE Jobs     - Manage UniKix BPE Jobs
B  TPE Region   - Manage UniKix TPE Region
C  JCL Menu     - Process JCL
D  Directory    - Directory Utilities
E  Software Extensions - 3rd Party Software
U  uni-SPF INFO

X  Exit        - Exit ISPF

```

*uni-SPF Extended for UniKix is tightly integrated with UniKix BPE software – providing mainframe developers and operators with a familiar environment when moving to an open systems platform – resulting in less retraining and impact to productivity.*

Figure 6. Job submission and monitoring

```

EDIT /mfra/transam_is/jcl/jmvs/TST01MFR -----
COMMAND ==>
***** ***** TOP OF DATA *****
000001 //TST01MFR JOB JF21,MSGCLASS=J,CLASS=H,
000002 //      REGION=4M
000003 //JOBLIB DD DISP=SHR,DSN=TFHT.GEN1.TEMP.LOADLIB
000004 //      DD DISP=SHR,DSN=TFTPROD.BATCH.LOADLIB
000005 //      DD DISP=SHR,DSN=TFHT.LOADLIB
000006 /**
000007 //*****
000008 //STEP1 EXEC TST01PRC,PARM='FOCO01',COND=EVEN,REGION=2048K
-----
USRBP00 ----- UniKix BPE Jobs
COMMAND ==>
1 System Status - Show system application status
2 Active Jobs - Show running jobs
3 Completed Jobs - Show completed jobs
4 Job Classes - Show active job class initiators
5 Launch GUI - Show UniKix BPE GUI
X EXIT - Exit with default list and log disposition
    
```

Users have the ability to continue developing and managing JCL or the translated UniKix BPE scripts. Adhoc job submission is possible from within an ISPF session using a standard submit command. Once running, job status can be queried via the UniKix BPE active jobs windows.

SDSF capabilities provide the ability to browse job output such as SYSOUT datasets, the job log, JCL, and any job related messages.

## 8. Comprehensive, worldwide support options

Unlike other migration alternatives, UniKix BPE software is backed by flexible, worldwide support options. Software support contracts can be arranged on a one year, two year, or three year basis. Standard service support includes patches, software upgrades, and documentation. For sites with the highest Service Level Agreements (SLAs) requirements, Platinum support can also be offered which includes 2 hour response time for Priority-1 calls 24 hours a day, seven days a week.

Access to Clarity’s Support website is also granted with all support contracts. This site provides an easy-to-use interface to request assistance and upload files to the Clarity Support Engineering Team.

As listed in Table 2, *UniKix BPE Software Documentation List*, UniKix BPE software is supported by a full documentation suite including Installation Guides, Configuration Guides, Migration Guides, User Guides, Reference Guides, Software Message Guides and Release Notes. This eliminates guesswork on the part of administrators and programmers as to the details and management of UniKix technology environments.

Table 2. UniKix BPE Software Documentation List

Document Title	Contents
UniKix BPE Software Configuration Guide	Instructions for: <ul style="list-style-type: none"> <li>• Configuring a node</li> <li>• Changing the date and time</li> <li>• Configuring internode communications</li> <li>• Configuring job accounting</li> <li>• Creating and customizing a subsystem</li> <li>• Configuring security and users</li> <li>• Configuring job classes and activities</li> <li>• Configuring error logging and using the troubleshooting tools</li> <li>• Customizing applications for an RDBMS</li> <li>• Communicating with UniKix TPE software</li> </ul>

	<p>Additional information:</p> <ul style="list-style-type: none"> <li>• Concepts</li> <li>• Environment files that control the job execution environment</li> </ul>
UniKix BPE Software Installation Guide	<p>Instructions for:</p> <ul style="list-style-type: none"> <li>• Installing UniKix BPE software</li> <li>• Upgrading from earlier releases</li> <li>• Running a sample application to verify installation</li> <li>• Setting up the license file</li> </ul>
UniKix BPE Software Message Guide	<p>Listing of all error messages, error descriptions and suggested remedial actions</p>
UniKix BPE Software Migration Guide	<p>Instructions for:</p> <ul style="list-style-type: none"> <li>• Mapping files</li> <li>• Using the UniKix BPE software Tool Kit to translate and validate JCL and to compile programs</li> <li>• Translating IBM® z/OS® environment and IBM® z/VSE® environment JCL</li> <li>• Using the job editor to import IBM z/OS environment and IBM z/VSE environment JCL</li> <li>• Migrating applications that use mainframe utilities</li> <li>• Migrating application programs</li> </ul> <p>Additional information:</p> <ul style="list-style-type: none"> <li>• Conceptual information about migrating jobs from mainframe environments</li> <li>• Batch shell</li> </ul>
UniKix BPE Software Reference Guide	<p>Information about:</p> <ul style="list-style-type: none"> <li>• Support for IBM z/OS environment JCL statements</li> <li>• Support for IBM z/VSE environment JCL statements</li> </ul>
UniKix BPE Software User's Guide	<p>Information and procedures for</p> <ul style="list-style-type: none"> <li>• Managing jobs and subsystems</li> <li>• Using the job editor to create and edit jobs and procedures</li> </ul> <p>Additional information:</p> <ul style="list-style-type: none"> <li>• UniKix BPE software commands</li> <li>• UniKix BPE software services and daemons</li> </ul>

## Why leverage UniKix BPE software?

Given today's emphasis on "doing more with less" and the increased data center management complexities stemming from ever-growing data sources, client types, regulations, and integration requirements, the importance of effective batch workload management on open systems has never been greater. Efficient batch processing reduces time-critical latencies between "islands" of applications, minimizes the down time that can occur when a job stops or other unplanned event occurs, and automates key activities to free up administrators to deal with other tasks in the data center.

When considering a migration project, both the path to obtain the desired target environment and the destination are equally as important. With UniKix BPE software, batch application investments can be quickly be leveraged on open systems without excessive code change and complex integration efforts, resulting in a highly manageable and well-supported platform moving forward.

### For more information

For more information related to Clarity products and service offerings visit <http://www.clarity.com>.

Organizations can also contact a local Clarity sales representative to learn how Clarity can help build competitive advantage with mainframe migration and modernization by emailing [info@clarity.com](mailto:info@clarity.com).