

ClearPath Forward CONNECTION January 2018

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Eighteen Months of Innovation

By Ritva Kangasperko, ClearPath Forward Team

Continuous momentum. An endless push to break new ground. A constant stream of innovative releases.

Over the past 18 months, these qualities have come to define the ClearPath Forward™ program. They're its driving force. They're the goals we strive to achieve every day. And they're the elements behind every release – large and small – we've introduced over this period.

From new systems and updated operating environments, to software-based deliverables and enhanced development kits, to simplified services and contemporary tools, we've been hard at work weaving more value into every facet of the ClearPath Forward environment.

And as another productive period comes to an end, it's time to take a look back, and consider how our latest innovations enrich the present while laying the groundwork for an exciting future.

Improving the Core

Our commitment to evolving and improving the ClearPath Forward program has long been rooted in the operating environments our clients trust to run their businesses, and the systems on which they reside. They're the foundation of everything else we do, so keeping them on technology's cutting edge plays an instrumental role in our ability to innovate every aspect of the ClearPath Forward environment.

With the recent updates to the premium ClearPath® OS 2200 and MCP operating environments – not to mention the latest ClearPath Forward Dorado and Libra systems – the foundation has never been stronger.

[ClearPath OS 2200 Release 17.0](#) and [ClearPath MCP Release 18.0](#) delivered integrated suites of new products, updated capabilities, and enhancements designed to help clients make their environments more secure and resilient, enable new employees to quickly develop applications, and address changing market dynamics by turning their data into a source of differentiation. >>

Meanwhile, the new [ClearPath Forward Dorado](#) and [ClearPath Forward Libra](#) systems we released this year – 11 in total – illustrate the various ways our transition to an all Intel® chipset continues to bear fruit. Featuring state-of-the-art components, greater I/O capacities, faster networking connections, and support for a wide range of workloads, these new models deliver the security, performance, availability, and scalability that's so crucial to success in today's business world.

Pair the new operating environments with the latest Dorado and Libra systems, and the core of the ClearPath Forward environment has been thoroughly upgraded – and primed to play host to many new innovations.

Redefining Firmware

Transitioning to an all Intel® foundation and introducing our first set of ClearPath Software Series deliverables effectively shifted the ClearPath Forward environment's defining intellectual property from the systems' hardware to the [firmware](#).

This creates a much more fluid environment because the firmware can take advantage of new technological innovations while remaining nimble enough to incorporate greater capacity, functionality, and performance.

For evidence, consider the recently released [ClearPath MCP Gold product](#). The latest addition to the ClearPath Software Series family leverages the flexibility afforded by the firmware to provide a complete MCP operating environment built to support entry- and mid-level production workloads – and serve as a follow-on for the ClearPath Forward Libra 4000, 4100, and 4200 systems. And with flexible deployment options – including industry-standard hardware and hypervisors – as well as multiple business models to choose from, MCP Gold offers the freedom to create an MCP environment that easily suits several unique business and IT needs.

Building a World for Everyone

While bringing more innovations to the rich set of tools that already exist in the ClearPath Forward environment is certainly a worthwhile accomplishment, these new additions are only valuable if they can be used by employees of all skill levels.

That's why we've dedicated significant time and effort to incorporating industry-standard interfaces, technologies, and practices into the environment's toolset. This way, everyone from veteran developers to programmers fresh out of college can make worthwhile contributions to the business.

To help sustain this goal, we recently introduced a number of tools that take advantage of industry-standard capabilities.

With the [ClearPath Visual IDE](#) – which was recently updated for both [MCP and OS 2200 environments](#) – it's possible to build ClearPath applications using the capabilities included in the familiar Microsoft® Visual Studio® development environment. Likewise, updates to the [ClearPath OS 2200](#) and [ClearPath MCP IDEs](#) for Eclipse™ align the tools with the Eclipse Foundation's latest release, giving developers an even richer set of features to utilize.

And then there are the ClearPath MCP and OS 2200 Rapid Application Development (RAD) paradigms for Python Environments. These brand-new capabilities – [read more about them later in this issue](#) – allow Python and Java programs to access ClearPath Forward programs and data using a language that's immensely popular among the younger generation of development professionals.

Supporting everything is the wholly revised [ClearPath Forward Services portfolio](#) and our new [Innovation Workshops](#). Together, these services and professionally facilitated, collaborative engagements can help clients identify and utilize the tools, methods, and processes they need to realize today's – and tomorrow's – business and IT goals. >>

Actions Speak Volumes

The wealth of innovation packed into our recent releases has made for a ClearPath Forward environment that's stronger, more flexible, and even better equipped to play an integral role in tomorrow's data centers.

It's also a reaffirmation of our commitment to continuously improving the environment with products, systems, and services that reflect our clients' changing business and IT requirements. And, perhaps most importantly, it's a goal we challenge ourselves to achieve year after year.

We can't wait to deliver on this goal yet again. We can't wait to show you where we're headed next!

18 Months of Hard Work

Since the middle of 2016, we've released:

- ClearPath OS 2200 Release 17.0
- ClearPath MCP Release 18.0
- Seven new ClearPath Forward Dorado systems
- Four new ClearPath Forward Libra systems
- Enterprise Output Manager 13.0
- Operations Sentinel 16.0
- Agile Business Suite 6.1
- ClearPath Forward ePortal 7.1
- Unisys Data Exchange 4.0
- ClearPath Visual IDE 2.0 for MCP and OS 2200
- ClearPath MCP Gold
- ClearPath MCP and OS 2200 RAD for Python Environments
- Business Information Server (BIS) 13.1 and 13R1
- ClearPath OS 2200 and MCP IDEs for Eclipse 4.7.0
- ClearPath Forward ePortal 8.0



Tightly Connected: ClearPath Forward and Python Programming

Keeping your ClearPath Forward system in its rightful place at the core of your operations relies in no small part on your ability to make it an attractive environment for younger programmers. And for many recent graduates, that means giving them the ability to program for the ClearPath Forward environment using the [Python language](#).

Well, here's the good news: Your team – new and existing alike – can now author programs in this popular language.

And they can do it today.

With the recently announced Rapid Application Development (RAD) paradigm, the Python language can now access both ClearPath MCP and ClearPath OS 2200 system resources, making it possible for your team's modern skillsets to bring even more value to your ClearPath Forward environment.

A Perfect Match

The ClearPath MCP RAD for Python Environments leverages the ClearPath Application Integration Services (AIS) product to give Python applications access to native ClearPath Forward file systems – with full fidelity. Because it integrates with AIS, your developers can use a familiar development environment – the Microsoft .NET Framework – to create applications capable of accessing files and calling library entry points in the MCP environment.

The best part is, any language that can access a .NET DLL can access ClearPath Forward files in both operating environments.

Additionally, MCP systems can use the MCP call-in feature in AIS to allow commodity code to invoke the code residing in your MCP library with nothing more than a method call. With the help of this powerful feature, practically anything you can do in an MCP library can now be easily invoked using Python. For instance, you can use the modules in Python that access databases via ODBC to access your ClearPath MCP databases.

The ClearPath OS 2200 RAD for Python Environments can easily make use of the rich set of Java Resource Adapters included in the OS 2200 environment. Using Jython, a version of Python that's tightly integrated with Java, you can reference standard Java libraries and blend Python and Java applications, so they can easily interface with the Java Resource Adapters. This enables Java and Python programs to access the OS 2200 file system, TIP/HVTIP transactions, and DMS and RDMS databases using the Java EE Connector architecture.

In addition, you'll be able to develop Python applications in the OS 2200 environment using the Microsoft .NET Framework through AIS. With this method, commodity code can leverage AIS to access the OS 2200 file system and call TIP/HVTIP transactions.

Making Python Part of Your World

The material offered alongside the ClearPath MCP RAD for Python Environments and ClearPath OS 2200 RAD for Python Environments walks you through the process of developing an application from start to finish. You'll begin by creating an empty [IronPython](#) – an open-source implementation of the Python language we chose for its tight integration with Windows – or Jython project, and by the end of the tutorial, you'll have a fully functioning application. >>

What's more, complete the tutorials and you'll develop the skills you need to efficiently write Python applications that leverage native ClearPath Forward resources. From building a fancy user interface in Windows Presentation Foundation that can access AIS to referencing Java libraries with existing ClearPath Java Resource Adaptors – and much, much more – you'll be able to use the power of Python to manipulate your ClearPath Forward data with an ease you never dreamed possible.

If you'd like to learn more, please check out the [ClearPath MCP RAD for Python Environments](#) and [ClearPath OS 2200 RAD for Python Environments](#) information centers on the Unisys Support Site. Once you work through these tutorials, you should be ready to get started using Python in your environment.

The MCP logo is a red rounded rectangle with the letters "MCP" in white, bold, sans-serif font.


A New “Turbo” Tool for MCP Security Administrators!

Beginning with [ClearPath MCP Release 18.0](#), the Basic version of [Locum Safe & Secure AdminDesk software](#) is bundled in all ClearPath MCP operating environment packages.

This new turbo tool for MCP security administrators is the “starter” version of Safe & Secure AdminDesk software. With it, security administrators can:

- Search, create, and edit Usercode and Remoteuser records in the Userdatafile
- Display and reactivate suspended users
- Easily view MCP security and policy settings

And by offering a subset of the full Locum Safe & Secure AdminDesk software, Locum AdminDesk Basic Edition makes it easy to discover the power of the Locum products.



Are You Ready for the New BIS Release for ClearPath OS 2200?

Great news, OS 2200 shops! There's new functionality for the scalable, multimode, rapid application development and information access tool you've long relied on to create, organize, and manage your business logic, information, and web assets.

With Business Information Server (BIS) 49R1, you can take advantage of more than 30 new features that work together to help you increase productivity while making sure your business-critical information remains resilient, accessible, and secure.

Highlights of BIS 49R1 include:

- **Rearchitected database structure:** Extensive restructuring of the BIS database engine helps you make more efficient use of database file space and streamline report updating – especially deferred updates. Audit trail writing has been optimized, as well, while audit trail database recovery now requires only a single pass through the audit data.
- **BIS Developer Workshop:** BIS 49R1 adds over 15 enhancements to Developer Workshop. Most notable among these is the new Forms Designer. With this feature, you can access a palette of form elements – such as edit box, combo box, image, etc. – drag and drop the elements onto a form, and view a helpful preview that shows what the form will look like when deployed in an application.
- **New COLORS Utility:** With this simple utility, you can easily configure color preferences related to report displays and messages in the BIS Graphical Interface (GI-BIS).
- **Simple sign-on:** With the new simple sign-on capability, an enhancement to the existing Domain Name Logon (DNL) feature, you can authenticate to a BIS server from GI-BIS without specifying the domain credentials. You'll improve security by eliminating the need to store domain credentials on users' workstations, as well as the requirement to sync up those credentials when a user's domain password changes.
- **IPv6 Support:** Updates to the BIS network communication interfaces allow you to run the solution in environments that support the IPv6 protocol, helping you take advantage of greatly expanded device address space and stronger security measures.
- **JavaScript enhancements:** The BIS JavaScript engine has been updated and enhanced to support select capabilities in the ECMAScript standard and more fully integrate with the BIS environment. As a result, you'll be able to use a number of new methods in the String and Math objects. With the new call() method that's been added to the existing BIS Session Object, you'll enable ad-hoc call/return with external JavaScript subroutines. And you'll also be able to take advantage of support for JavaScript Object Notation (JSON).
- **User interface modernization:** BIS 49R1 modernizes many existing end-user and administrator utilities with GUIs, making them more intuitive for new developers – without sacrificing any current capabilities.
- **New statistical analysis library:** Using this library of callable subroutines, you can submit data sets and receive answers, or analyze the data and then feed it into user applications. When you do, you'll be able to analyze trends and create forecasts using moving average, moving median, simple linear regression, and exponential smoothing techniques. >>

- **New OPTIONS directive:** The new BIS Script (“MAPPER Run”) OPTIONS directive allows you to selectively enable and disable specific script parser behaviors. This feature allows BIS application developers to easily take advantage of new parser capabilities while maintaining backward compatibility with BIS 48R1. It also improves script compatibility with BIS on Microsoft Windows® and Linux® platforms. Though the directive will be expanded in future releases, in BIS 49R1, you can use it to enable temporary variable value reformatting, reserved word value substitution in the output area, and implicit option setting on the Load Variable statement.
- **Upgraded Script Editor Utility:** The Script Editor Utility receives upgrades that leverage the BIS Developer Workshop framework, giving it a modernized look and feel.

BIS 13R1 and 13.1 are also available! BIS 13R1 is qualified for 64-bit versions of Red Hat® Enterprise Linux 7 and SUSE® Linux Enterprise Server 12. BIS 13.1 is qualified for Microsoft Windows 2016.

These new features build on the rich development tools and scalable runtime system that have long been BIS hallmarks. With its ability to access data just about anywhere, along with an extensive suite of data extraction, analysis, and summarization functions, BIS is ideal for turning raw data into real information.

Please [visit our web site](#) to see more of the great things you can do with BIS. And if you're ready to upgrade to BIS 49R1, please contact your Unisys sales representative today.



ClearPath Forward ePortal 8.0: The Next Generation Is Here

When you use the ClearPath Forward ePortal, you're taking advantage of an advanced modernization program that increases the reach and value of your applications by making it easy for you to extend them to a greater number of users, devices, and channels.

We take great care with each new ePortal release to enhance and expand these capabilities, so it's simple to develop new products and services, get them to market quickly, and realize significant value from your ClearPath Forward application investments.

And ClearPath Forward ePortal 8.0 is no different.

In the latest version of ePortal, we're introducing enhancements that increase manageability and flexibility, help you do more with your applications' data, and add more control to your security settings.

Key features include:

- **New Management Web Service:** In addition to the existing SOAP-based Management Web Service, a new RESTful API based on ASP.NET technology has been added to ePortal 8.0, giving you an alternate means of programmatically accessing equivalent ePortal management functions.
- **Third-party component and mobile OS support:** Integrations with the latest third-party components – such as Apache Cordova™ and Bootstrap – and mobile operating systems allow ePortal 8.0 to offer the built-in compatibilities you need to take full advantage of contemporary mobile and web technologies.
- **Configurable application performance counters:** You now have the option to extend the default set of performance counters you normally monitor with specific counters you select based on your shifting requirements.
- **Runtime performance data collection:** The option to collect runtime performance statistics following a specified sampling interval is included in ePortal 8.0.
- **Performance data forwarding:** With ePortal 8.0, you're able to forward a cluster's performance statistics to the ePortal Agent running on a back-end OS 2200 system, which can then make the data available to custom routines, such as analysis by SIEM tools.
- **Certificate management improvements:** With the ability to export a server certificate to a .pfx formatted certificate file, you have an additional backup mechanism for any server certificates issued for use in ePortal.
- **Additional IIS log file information:** Log messages sent to the IIS log now note the Web Partition number and timestamp, making it easier to identify the origin of the messages.
- **Security setting configuration:** A new security settings interface includes the option to enable TLS 1.0 and 3DES cipher security protocols for the ePortal Manager and Web Clusters.
- **Tab index field generation:** When creating a presentation project from an Agile Business Suite (AB Suite®) data source, you'll be able to design the view faster by generating controls in the order of the original tab index. >>

- **COBOL Data Source Orchestration Connect:** With the Connect message type added to the ePortal Orchestration feature, you have the runtime flexibility to dynamically specify the host name, window name, and port number of the back-end server your application will target.
- **Enhanced COBOL Import Wizard:** Bringing a simple user interface to the COBOL Import Wizard in ePortal Developer streamlines the process of importing and maintaining COBOL records for an ePortal COBOL data source project.

A New, Bold Direction

With ePortal 8.0, we're also revealing a release that promises to chart a bold, exciting new direction for the ClearPath Forward ePortal.

Please welcome ClearPath Forward ePortal Software Edition (ePortal SE).

Reflecting the approach we established with the revolutionary [ClearPath Software Series](#), ePortal SE takes the defining ePortal characteristics and decouples them from the hardware to which they've been traditionally tied.

With ePortal SE, you'll have a software-based version of ePortal that's comparable to ePortal Business implementations, but can be freely deployed on industry-standard virtualization platforms, including Microsoft Hyper-V® or VMware® ESX™.

This way, you'll have even more flexibility to determine how you modernize and extend your applications. You'll also be able to make ePortal a central component of your software-defined data center. And as a result, you'll do more with – and get more value from – the investments you've already made in your technology and your people.

Please visit our web site to learn more about the exciting updates included in [ClearPath Forward ePortal 8.0](#), as well as the benefits it delivers in [OS 2200](#) and [MCP environments](#).



Here Comes a New MCP Eclipse Release!

Big news on the ClearPath MCP development front: the newest version of the ClearPath MCP IDE for Eclipse™ has arrived!

With the ClearPath MCP IDE for Eclipse, you get a modern, fully featured, extensible means of developing 3GL programs in COBOL, ALGOL, and C, as well as composite applications for JEE platforms. It also includes a plug-in to work with MCP files, and accommodates MCP file system browsing, debugging, and diagnostic logging. This way, recent college graduates who are used to working in modern IDEs can easily adopt Eclipse to develop MCP applications.

The latest release, which leverages the features built into Eclipse version 4.7.0, includes several new and noteworthy capabilities, updates, and enhancements:

- **MCP File Explorer:** You're now free to browse the MCP file system, as well as edit and save elements, without leaving the Eclipse IDE.
- **Variable colors for ALGOL file types:** With this feature, you have the option to assign a color definition to type, Integer, Real, Array, Boolean, and Pointers variables in ALGOL, DCALGOL, and DMALGOL file types, making it easier to understand the definition of each variable.
- **Editor drag-and-drop:** An enhancement to the Editor, the new drag-and-drop functionality allows you to select and move text contents from one location within the Editor to another.
- **Log Analyzer:** With the Log Analyzer, you can query the SUMLOG contents and save the generated logs to a file on a local file system or a remote MCP host. Queries can use the following criteria:
 - Task/Mix number
 - Job/Session number
 - IDENTITY list of records
 - PRINT jobs
 - File entry status
- **Output file properties:** You now have the flexibility to choose attributes – such as Security Type, Security Use, and Release ID – for all object files generated during the build or assign them to specific files only.
- **Syntax-only check:** Using this feature, you're able to check for syntax errors without performing the actual compilation.
- **Multiple Editor windows:** An Editor that's already open can now also be opened in edit, patch, or view mode.
- **MCP search:** With the MCP search feature, you're able to search the contents of open editors, selected resources, or an entire workspace, as well as new contents in unsaved files.
- **DASDL file editing:** You're now able to edit DASDL files of 80 and 85 characters in length.
- **Support for multiple user connections:** With the ability to enable multiple users to connect to the same host, it will become easier for you to control user access directly within the Eclipse environment.

[Check out our web site for more information about the ClearPath MCP IDE for Eclipse. Looking to try the software yourself? You can download it here.](#)



Resources

The list below contains quick links that will help you stay up to date on all things ClearPath Forward.

- [ClearPath Forward homepage](#)
- [ClearPath Forward Services](#)
- [Agile Business Suite homepage](#)
- [Business Information Server \(BIS\) homepage](#)
- [ClearPath Forward & Innovation Blog](#)
- [ClearPath Forward How-To Videos on YouTube](#)
- [ClearPath Forward Libra/MCP Webinars](#)
- [ClearPath Forward Dorado/OS 2200 Webinars](#)
- [eBook: The Power of Innovation: ClearPath Forward Systems in Action](#)
- [eBook: The Road to Innovation: ClearPath Forward Services](#)
- [eBook: Understanding the Economics of ClearPath Systems](#)
- [eBook: How to Shift Your IT Focus from Administration to Innovation](#)
- [Brochure: Evolve, Implement, Manage: The New ClearPath Forward Services Portfolio](#)
- [Video Playlist: ClearPath OS 2200 Software Release 17.0 Technical Update \(29 Videos\)](#)
- [Video Playlist: ClearPath MCP Software Release 18.0 Technical Update \(21 Videos\)](#)
- [Video: The Sky is No Longer the Limit](#)
- [Video: When Every Transaction Matters](#)
- [ClearPath Forward Client Education Homepage](#)
 - [Guide: ClearPath OS 2200 Course Catalog](#)
 - [Guide: ClearPath MCP Course Catalog](#)
 - [Guide: Agile Business Suite Course Catalog](#)
- [Newsletter: Developing Agility May 2017](#)
- [Newsletter: ClearPath Forward Connection October 2017](#)