

# ClearPath Forward CONNECTION OCTOBER 2017

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We provide a wide array of materials to help you stay up to date on everything that's happening in the ClearPath Forward world.

## Extending the Experience

By Andrew W. Beale, Distinguished Engineer, System Software Development, Unisys



From the introduction of the very first systems to our latest releases, there has been one core tenet guiding every decision we have made – and will make – regarding the ClearPath Forward™ program: enhance and preserve our clients' investments in their technology, applications, and data.

In practical terms, what this means is that while every new system we roll out is sure to include the latest technological innovations alongside any number of updates, enhancements, and tweaks, we take great care to test and manage these in a way that is completely transparent to our clients. They'll benefit from the value these changes hold, while remaining insulated from the changes themselves.

It wasn't until only recently, though – after we completed our transition to an all Intel® foundation and introduced the first software-only deliverables – that our clients started wondering what happened to the intellectual property that was historically embedded in the hardware. They want to know that their investments are just as protected now – at a time when the ClearPath Forward program is actively reshaping itself – as they were then.

The answer, unequivocally, is yes.

### Firmware Protects and Provides the Environment

The IP that has long defined the ClearPath Forward experience is still very much in place. It's just moved from the systems' hardware into the continually enhanced, always evolving firmware.

The ClearPath Forward architecture forms the core of the environment. This was true when the environment ran on top of Unisys designed CMOS processors, and it's just as true today, when the environment runs on top of Unisys firmware.

So by fully implementing the ClearPath Forward architecture in the firmware – instead of silicon – all of the protection mechanisms once found in the architecture are now encapsulated by the firmware. But the firmware is capable of leveraging the latest technological innovations in ways that allow the architecture to improve faster than was ever possible in a hardware implementation. >>



No matter what shape the ClearPath Forward environment takes, the firmware enables the architecture to quickly evolve and incorporate greater capacity, functionality, and performance. And it continues to play a significant role in protecting clients' investments, keeping their applications running at peak performance, and safeguarding the data that's so critical to their businesses.

## Extending Security to a Software-Driven World

One way to see the ongoing, critical role firmware plays in the evolving ClearPath Forward environment is to consider the impact it has on a concern that's top of mind for most everyone today: security.

Proven, multi-layered security is a cornerstone and defining characteristic of the ClearPath Forward environment. So, even as we've changed the underlying hardware platform and facilitated the transition toward a software-based model, security demands a continued emphasis. In fact, as we made it possible to run the ClearPath® MCP and OS 2200 operating environments on Microsoft® Windows® platforms and other open systems, it's become more important than ever.

And that's where the firmware comes into play. With the help of the firmware, clients aren't simply getting a ClearPath Forward environment running on top of a commodity platform. They're getting a platform that implements the ClearPath Forward architecture on state-of-the-art Intel® processors.

To that end, the firmware helps to protect against many common open-system exploits – just as it used to in earlier ClearPath Forward systems – such as preventing data from being written beyond the allocated memory space and distinguishing executed code from data. But it goes a step further.

By following a “deny all” approach, the firmware essentially turns off many of the services and built-in functions a commodity environment offers, stripping the system down to just those elements required to run the ClearPath Forward environment. This reduced attack surface helps to protect the integrity of clients' applications and data, and even hardens the underlying operating system, too.

So if there's an attack, there's little risk of corruption, data loss, penetration, or loss of control. The worst thing that can happen is the system stops operating. Plus, the processor cycles that would have been used on unneeded services can now be applied to clients' ClearPath Forward workloads, redirecting more capacity to where it's needed most.

## The More Things Change...

The ClearPath Forward program has been defined by change in recent years. The trends are different, the challenges are different, and the way we've chosen to address them are certainly different. But as we move from hardware, to software, and eventually the cloud, we have not wavered on the commitment we made to our clients on day one.

Though the systems continue to evolve, the underlying philosophy has not. It's as evident in the firmware today as it was in the hardware many years ago.

And it is with these guiding principles that we'll continue to maximize reliability and availability. We'll continue to deliver predictably high levels of performance. We'll continue to make security a cornerstone. And we'll continue to preserve our clients' compiled code and data formats from release to release.

This is what we mean when we talk about “extending the experience” that differentiates the ClearPath Forward program. No matter what changes under the surface, you'll know your environment will continue to deliver the qualities you've come to expect – and more – year after year after year.



## Freedom of Choice: ClearPath MCP Gold Has Arrived

As the ClearPath Software Series continues to mature and evolve, you'll be presented with new and richer opportunities to benefit from the flexibility a software-defined architecture has to offer.

You can see evidence of this with 2016's release of the ClearPath MCP Bronze and Silver products. Creating entry-level, software-based MCP environments designed to run on industry-standard hardware and hypervisors gave you the freedom to leverage the core ClearPath attributes in new, innovative ways.

And now, we're thrilled to announce that we're taking everything these products established a step further with ClearPath MCP Gold.

With MCP Gold, you get an integrated, production-ready instance of the full ClearPath MCP integrated stack – encompassing operating system, transaction manager, database, system utilities, and firmware – in a package built to support mid-level production workloads.

As a follow-on for the ClearPath Forward Libra 4000, 4100, and 4200 systems, MCP Gold sustains all of the enterprise-class attributes – like multi-layered security, proven reliability, and high-transaction-volume processing – these systems embody. And as always, you get 100 percent code compatibility with previous Libra systems – so you can move your applications to MCP Gold without any updating or recompiling.

### It's All About Choice

While all MCP Software Series products emphasize flexibility, MCP Gold takes freedom of choice to a never-before-seen level.

Just like MCP Bronze and Silver, you can deploy MCP Gold on industry-standard hardware and virtualization platforms. You can install it on any existing Intel® based system that conforms to our specific reference architecture. Or, you can procure the hardware directly from Unisys. This gives you an opportunity to get more from what you already have in place, while making it easier to comply with your organization's hardware standards and simplify vendor management.

Plus, with the ability to run the product in a private cloud, you'll simplify data center operations, reduce the need for specialized skills, and potentially continue utilizing your preferred vendor and server configuration.

And because you can change hardware platforms with ease, you'll be free to take advantage of industry enhancements as they become available.

With such an immense amount of flexibility, MCP Gold can help you define – and redefine – your data center through software, enabling it to easily handle server virtualization, software-defined storage, software-defined networking, disaster recovery, replication, archiving, and much more.

### A Business Model for Every Business

No matter which deployment option you choose, MCP Gold offers unique licensing models you can select based on your organization's specific business objectives and performance requirements.

With the product's consumption-based pricing, you can leverage an industry-standard private cloud pricing model that makes costs predictable, helps you avoid over-provisioning, and offers the flexibility to tap into additional processing power as business and IT needs dictate.

Or, you can opt for a more traditional capacity-based model that's great for supporting consistent workload demands, while still offering the agility to tap into additional performance when you need to accommodate the sudden spikes brought upon by things like month-end processing or seasonal fluctuations.

With near-absolute freedom to determine how you deploy and license MCP Gold, only one question remains: How will you use it?

*For more information about MCP Gold, please visit [Unisys.com](http://Unisys.com) or contact your Unisys sales representative.*



## ClearPath Visual IDE 2.0: Now Available for MCP and OS 2200 Environments

With the ClearPath Visual IDE, you're able to leverage the capabilities built into Microsoft Visual Studio® to develop ClearPath Forward applications. This way, you'll shorten the time it takes new team members to become productive application developers, while making distributed applications more cost-efficient to develop.

And now, we're happy to announce that all of the goodness in the ClearPath Visual IDE is available for the OS 2200 operating environment!

When you use the ClearPath Visual IDE in the OS 2200 environment, you'll be able to:

- **Create OS 2200 projects:** You can use a predefined OS 2200 project type to quickly create projects and develop applications and libraries. Plus, you can configure build settings, as well as run or debug settings, for these projects.
- **Create and edit OS 2200 source files:** With the Visual Studio code editor, you can create and edit OS 2200 source files in the following languages:
  - UCS COBOL
  - UCS C
  - ECL
- **Support source control:** You can use native Visual Studio source control features to easily manage both individual and team projects.

- **Build OS 2200 applications and libraries:** The ClearPath Visual IDE gives you the freedom to build applications and libraries within a project, edit their default configurations, or even create your own configurations.
- **Run OS 2200 projects:** Once the build completes, you can use the ClearPath Visual IDE to run your OS 2200 projects, as either a demand program or a TIP transaction program.

To see what else is included in this release, check out the [ClearPath Visual IDE 2.0 – OS 2200 key features demo](#).

### But That's Not All...

MCP shops, we haven't forgotten about you. We've also updated the MCP-specific capabilities of the ClearPath Visual IDE to include more languages and file formats. So in addition to the languages and formats that were already supported, you can now create and edit MCP source files in WFL, DASDL, SEQDATA, and TEXTDATA. For more information, please watch the ClearPath Visual IDE [Release 1.2](#) and [Release 2.0](#) demo videos.

*For additional details about the ClearPath Visual IDE, including configuration, compatibility, and licensing requirements, please [visit our web site](#).*



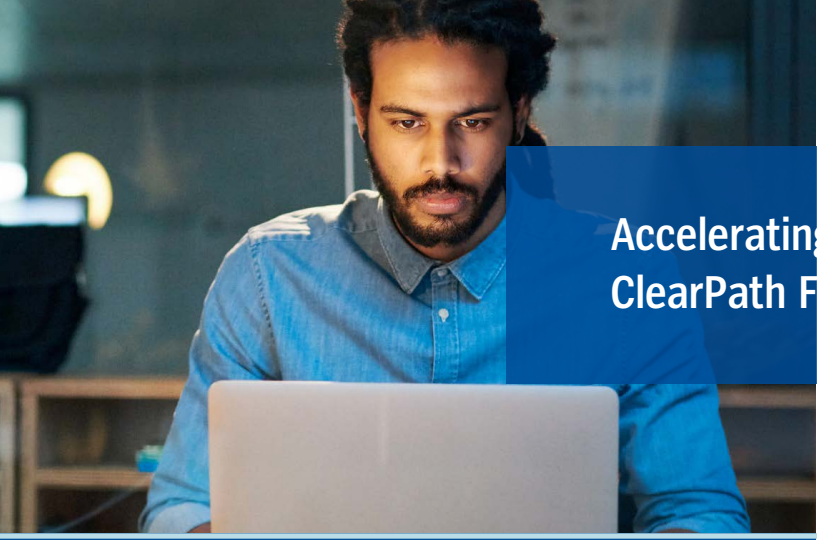
## The Latest OS 2200 Eclipse Update is Here

With the ClearPath OS 2200 IDE for Eclipse™, you're able to utilize a modern, contemporary Integrated Development Environment (IDE) that makes it easy to create COBOL, FORTRAN, C, and Java programs targeting OS 2200 systems.

We routinely enhance the software with every new version the Eclipse Foundation releases. And with Eclipse version 4.7.0 now available, we're happy to announce some key new features have been added to the IDE:

- **Outline functionality for COBOL programs:** With the new outline view, you'll be able to see the structural elements of a model – division name, section name, or paragraph name – in an easy-to-navigate, tree-like structure.
- **Handling unprintable characters:** With this feature, you have the option to remove special characters from the INFOConnect screen when the contents are pasted into the Editor, so it functions properly in the build stream.
- **End-of-element marking:** In this latest release, you have the option to add a line feed at end of file when saving any Editors containing the build stream, helping the file run properly in both demand and batch modes.
- **Shared drive file creation:** You'll be able to view a list of available shared drives on the selected OS 2200 host, create a work file on one of the drives, and make sure it's backed up regularly during system cleanup operations.
- **Local caching for the OS 2200 File Explorer:** With the ability to locally cache the OS 2200 File Explorer, you'll accelerate file editing by working directly within a local copy of the file.
- **Version control support:** In addition to enabling you to create local projects that include develop, build, and debug functionality, the IDE also makes it possible to check these projects into popular source-control tools, like Microsoft Team Foundation Server.
- **Merging:** You now have the ability to automatically merge local cached files with the copy on the OS 2200 file system during sync operations, removing the conflicts that can exist between versions.
- **Task tags:** With the IDE's new task tag feature, you can add tasks – reminders, work yet to be done, priorities, etc. – to your projects.
- **Data file management:** With the new data file management tool, you'll be able to automatically parse the data files associated with COBOL records and display them in a GUI-based tree view that makes it easy for developers to add, modify, and delete records.

*Please [visit our web site](#) to learn more about all the capabilities packed into the OS 2200 IDE for Eclipse. And if you'd like to give the software a try, [download it today!](#)*



## Accelerating Application Modernization with the ClearPath Forward ePortal

There's great promise in application modernization.

It can empower you to cater to new classes of end users. It can turn an emerging trend into a competitive advantage. And it can help jumpstart your digital transformation journey.

But where do you start? Which applications are the best modernization candidates? And how can you run the project so it delivers exceptional results without introducing unnecessary risk or interrupting key business functions?

The ClearPath OS 2200 and MCP environments offer a number of tools that can help you do new and exciting things with your existing applications. But when you want to modernize them as quickly and easily as possible, look no further than the ClearPath Forward ePortal. With it, you can rapidly extend your ClearPath Forward applications using mobile, web, and web services technologies.

Pair it with the [ClearPath Forward Services portfolio](#), and you get the engine you need to simplify application modernization, along with the expertise and support that can help you plan and execute your initiatives, without disrupting business as usual.

We offer a comprehensive range of ePortal services, covering such areas as introduction and assessment, proof-of-concept, and installation. Every engagement also includes the training and extended consulting your team needs to manage their new capabilities with confidence.

But if you really want to kick start the application modernization process, then the ClearPath Forward ePortal Digital Modernization service is for you.

### Making Modernization a Reality

The ClearPath Forward ePortal Digital Modernization service helps you bring your modernization projects to life in a quick, low-risk manner by leveraging non-invasive modernization techniques, speedy implementation processes, and an approach that prioritizes the end-user experience.

As a highly customizable engagement, you're free to tailor the ClearPath Forward ePortal Digital Modernization service's various phases to your organization's unique needs and business demands:

- **Assessment Phase:** An initial assessment aimed at understanding and determining the overall scope of your ePortal modernization project.
- **Pre-planning and Ideation Phase:** A proof-of-concept exercise that shows how specific screens and transactions could function on new digital platforms.
- **Installation and Configuration Phase:** Installation and configuration of your selected ePortal components.
- **Development Phase:** Development and generation of your modernized applications, as well as user experience design and testing.
- **Deployment Phase:** Testing, monitoring, and deployment of your new ePortal enabled solution.
- **Training and Extended ePortal Services Phase:** Customized training, documentation, and transition materials, delivered as needed.

With the help of the ClearPath Forward ePortal Digital Modernization service, you'll be able to accelerate the application modernization lifecycle while minimizing business disruption. At the same time, you'll get more business value from your existing infrastructure investments. And, with our end-to-end digital expertise and a service model that emphasizes automation, you'll avoid the need for specialized skills and shorten time to market, so you can quickly become an innovator in your space.

*Please [visit our web site](#) to learn more about the various components of the ClearPath Forward Services portfolio and all of the benefits they can bring to your business.*



## The Pinnacle of Simplicity

When we introduced the first version of Apex in ClearPath OS 2200 Release 15.0, the aim was clear: Simplify administration of the ClearPath OS 2200 environment so much so that new or lesser experienced team members can effectively manage the system.

To achieve that goal, Apex consolidates the administrative tasks that were traditionally performed using various Unisys provided and user-developed utilities and processes. For instance, it provides a flexible set of reports around defense in depth, monitoring compliance with security policies, and configured user IDs and accounts. It also simplifies the process of gathering information about events of concern, such as login failures. By eliminating the need to run multiple tools and scan the results manually, Apex accelerates investigations and empowers your security administrations to take immediate action.

Pairing this approach with intuitive user interfaces, based on familiar web paradigms in a secure architecture, furthers the goal of making both experienced and new administrators more productive.

### A Vision for a Simpler Future

When we began developing Apex, our field engineers told us loud and clear that clients' primary concern was security administration.

So in the product's initial release, we did just that, focusing on features that simplify security administration and system configuration.

Apex 2.0, delivered in conjunction with ClearPath OS 2200 Release 16.0, refined and expanded these features, while also adding new capabilities in the area of software administration. And when Apex 3.0 rolled out alongside ClearPath OS 2200 Release 17.0, we took everything a step further.

Now, Apex includes read-only database administration functions and even more robust security, configuration, and software administration features. With the addition of these latest updates, Apex is now a comprehensive alternative to the Security Administration for OS 2200 Security Client Windows application.

As we look to the future with Apex, our plan is to target new areas – including transactions, files and storage, and applications – that free your system administrators from the low-level interfaces they use today. We'll also continue to add more reports that further streamline their workflow. And when we do, you'll find it even easier to manage your OS 2200 environment.

*Have an idea you'd like to see Apex address next? If so, please send us a note through the [support site](#). And if you'd like to learn more about how Apex can simplify system administration in your OS 2200 environment, please check out the Apex videos included in the [ClearPath OS 2200 Release 17.0 Technical Update](#) and [ClearPath OS 2200 Release 16.0 Technical Update](#) video playlists.*

## A One-Stop Shop for ClearPath MCP Technical Details

ClearPath MCP Release 18.0 is packed with valuable updates and enhancements that work together to help you achieve considerable benefits in the areas of security, application scalability, and integration and interoperability.

And for the first time ever, we're making it easy for you to learn about everything this new release has to offer in a simple, consumable way. With "ClearPath MCP Release 18.0 Technical Update," we've created a 19-video series, built with help from our engineering team, examining the technical details of the new capabilities, features, and products in MCP 18.0.

Not only will these videos help you get acquainted with the release's major features and new capabilities, they'll also help you understand what to keep in mind when planning your upgrade to MCP 18.0.

The videos are available as a [YouTube playlist](#) and on [our support site](#). They're designed for self-paced viewing, so you can feel free to watch them at a time – and in a sequence – that makes the most sense for you.

Eager to learn more? Then give the playlist a look today!







## Resources

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

- [ClearPath Forward homepage](#)
- [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 \(Updated\)](#)
- [eBook: Built for Today, Ready for Tomorrow: Unisys ClearPath Systems \(Updated\)](#)
- [eBook: The Road to Innovation: ClearPath Forward Services \(NEW\)](#)
- [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 \(NEW\)](#)
- [Video Playlist: ClearPath OS 2200 Software Release 17.0 Technical Update \(27 Videos\)](#)
- [Video Playlist: ClearPath MCP Software Release 18.0 Technical Update \(19 Videos\)](#)
- [Video: The Sky is No Longer the Limit \(NEW\)](#)
- [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 July 2017](#)