UNISYS

ClearPath Forward Connection

A Quarterly Newsletter for Unisys ClearPath Forward Clients

Contents

Charting Your Course on the Innovation Path

By Greg Fuhrman, Vice President and GM, Product Services and Support, Unisys

We kicked off several recent issues of ClearPath Forward Connection™ detailing the next few stops on the ClearPath Forward™ roadmap.

It's a journey full of innovation – one that's seen the ClearPath Forward program become less dependent on hardware and embrace software-only deliverables. It's positioned a full operating environment to run on the industry's most popular virtualization layer. And it's set up our clients to focus their energy and resources toward the applications that truly differentiate their businesses.

Together, these and other advances have put ClearPath Forward systems and applications in a position of undeniable importance: at the center of today's modern, hybrid data center environments.

So while the roadmap charts out a clear, exciting direction for the ClearPath Forward program, it's also one that might leave you asking, "how?" How will you take advantage of everything we've done to date, as well as what we plan to deliver in the future, in a way that's timely, secure, and cost-effective?

Our brand-new services portfolio is the answer. It's the vehicle that can take you along the innovation roadmap we've established for the ClearPath Forward program – as well as your own – in a manner that emphasizes speed, minimizes risk, and increases cost efficiencies. **>>**

ClearPath Forward
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The Time for Change had Come

Before exploring what makes our services portfolio so essential, it's important to understand the issues, factors, and strategies that inspired us to change it in the first place.

The old ClearPath® Services portfolio served our clients well for years by delivering traditional product implementation services. But as the ClearPath Forward program transitioned into the heart of the evolving hybrid IT environment, the portfolio became less and less aligned with the course we were following. Our offerings began to feel incomplete and inconsistent, which made it difficult for clients to understand what a particular service was, what it did, and how an engagement would benefit them.

In addition, our internal service delivery structure was not built to keep ClearPath Forward experts dedicated to – and focused on – their core competencies. Their skills were spread around to different initiatives within the company, leading to a dilution that caused clients to seek assistance from external, far less knowledgeable, sources.

Given these concerns, and with support from Unisys executive leadership, we rethought the strategy around how ClearPath Forward services are defined, scoped, and delivered. We wanted a portfolio that's shaped by where the ClearPath Forward program is today, but remains flexible enough to reflect where it's headed tomorrow. And, equally as important, we wanted to make sure our top ClearPath Forward experts remain 100 percent focused on serving your interests.

Here's where we landed.

Service Delivery Reimagined

The new, thoroughly revised ClearPath Forward Services portfolio emphasizes two clear objectives: simplicity and comprehensiveness.

With three core services areas – **Application Enrichment Services, Product Implementation Services, and Managed Services** – the portfolio has streamlined significantly, making it much easier to understand what a particular offering does and how it could be put to use in your organization. At the same time, the individual services are much more complete. They still encompass basic offerings, such as implementation services, training, education, and general consulting. However, they now extend to include comprehensive and enduring efforts around application enrichment and support, as well as managed services and outsourcing.

The engagement model is all-new, too.

The ClearPath Forward Services organization is now spearheaded by a team of engagement managers and solution architects specifically chosen for their experience, expertise, and deep understanding of the MCP and OS 2200 environments. They are, in short, the best ClearPath Forward technical and solution experts in the world. As the key resources in charge of executing our engagements, they'll work closely with you, listen to your goals and challenges, understand where you're trying to go, and chart out a course that gets you there.

We're supplementing this team with subject matter experts from our engineering organization who can be called on as needed to provide detailed knowledge, insights, and perspectives about specific areas of the ClearPath Forward environment. Joining these groups together ensures our engagements consider every potential angle and deliver guidance that's effectively tailored to your requirements. >>

Becoming Your Trusted Advisor

Our Innovation Workshops help to round out the new ClearPath Forward Services portfolio and engagement model. Built around a methodology that encourages open collaboration, these workshops help to surface the goals you're looking to achieve and the barriers you see standing in your way. Our engagement team and solution architects will consider your input, discuss the opportunities available to you, and present customized solutions to those issues, including the services you'll need to make your goals a reality.

In this way, our new services approach illustrates how we're working to become more than a technology provider. We want to be your trusted advisor, someone you can turn to when faced with complex technology questions. Someone who will challenge your assumptions and push you to think – and act – with a new perspective. And, most importantly, someone who will help you follow through on your decisions with conviction and peace of mind.

In the end, we want you to feel comfortable and confident with how you're leveraging all of the innovation inherent in the ClearPath Forward environment, so it remains a driving force behind your organization's success.

Upcoming Events

Mark your calendars today, because **UNITE 2016** is ready to rock Cleveland October 10th through 12th! The only gathering of UNITE members and the Unisys user community in North America this year, UNITE 2016 provides a great opportunity to reconnect with old friends, meet new ones, and network with peers who share a passion for all things Unisys. Keep an eye on the conference updates page for news about the agenda, session times, registration, and more. And if you can't wait to get there, go ahead and book your hotel today.

In addition, we're happy to announce that two **EMEA ClearPath Briefings** have been scheduled for this coming September. One will take place in Utrecht, the Netherlands, on September 20th. The other is set to happen outside of Oxford, UK, on September 22nd. For additional registration, agenda, and booking information, please visit the ClearPath Briefings web site.

It's Time for ClearPath OS 2200 Release 17.0

ClearPath OS 2200 Release 17.0 is set to go live in October. This major release of the operating environment for ClearPath Forward Dorado systems builds on its proven, business-critical leadership by delivering new advances in performance, scalability, availability, resilience, security, application agility, and integration.

To that end, OS 2200 17.0 includes 107 fully integrated, fully qualified software components that have been designed, developed, and tested as a whole to ensure they deliver the seamless operations your core business applications and databases demand.

The new features, updates, and enhancements we've added into ClearPath OS 2200 Release 17.0 work together to deliver considerable benefits across three important areas:

• Application Modernization
• Data Center Transformation
• Security

Application Modernization

With the help of ClearPath OS 2200 Release 17.0, you can more effectively utilize widely available developer skills, make it easier to maintain and integrate your applications, and execute new initiatives that better align IT investments with business objectives:

ClearPath Forward ePortal for OS 2200: The ClearPath Forward ePortal for OS 2200 has been updated in OS 2200 17.0 with enhancements to ePortal Developer that help to reduce application complexity, so you can develop web service applications faster. In addition, ePortal now supports Apache Cordova™ 5.1.1 for multi-device application development.

Open TI: To enable application integration between .NET and OS 2200 transactions and services, Open TI now supports both 32-bit and 64-bit Microsoft® Windows® environments. The 64-bit capability includes support for .NET 4.6.1 or higher, enabling your developers to take advantage of the features in the latest Windows tools and technology.

CS2200: A new product that's included in OS 2200 17.0, CS2200 provides a simple, socket-based program interface for .NET applications to access OS 2200 files and applications. **>>**

XML: OS 2200 17.0 includes the ability to generate XML from an OS 2200 COBOL data record. Developers can now export OS 2200 COBOL data records into XML and import that into their Java or .NET applications.

Data Center Transformation

With the enhancements included in ClearPath OS 2200 Release 17.0, you'll be able to improve the ways you interact with and process data:

MCB: Significant performance and scaling improvements make it possible to increase OS 2200 application workloads without impacting performance or system limits. As a result, you can support higher transaction rates, increase the number of concurrently running transactions, and, in some cases, place more messages on the queue.

RDMS: Improved query performance will help you access your data faster, enabling you to better support business requirements that involve data warehousing and online analytical processing (OLAP). Understanding and viewing RDMS databases is simpler in OS 2200 17.0, as well. Apex now provides various views of the RDMS databases available to each application group, making it easier for your database administrators to understand the physical layout of OS 2200 databases and view their active configurations, as well as the database's schema, storage area, and table objects.

Integrated Recovery Utility (IRU): New enhancements enable faster access to archived audit information, reduce I/O overhead, and improve database backup performance for Universal Data System (UDS) files.

WebSphere MQ for ClearPath OS 2200 (WMQ2200): OS 2200 17.0 includes support for IBM® WebSphere® MQ version 8. With this update, your OS 2200 applications can securely and reliably exchange messages with applications residing on a wide range of operating systems and platforms. In addition, new channel improvements help system administrators determine whether other systems should be upgraded and allow for more predictable latency when there is a mixture of large and small messages. And, new security features in WMQ2200 include Object Authority Manager (OAM) user-based permissions, updated cryptographic standards compliance, and more.

Operations Sentinel: The latest version of Operations Sentinel provides many features that help you monitor your infrastructure's health from end to end. Specifically, it enables you to check ClearPath Forward ePortal for OS 2200 implementations, back up and restore configuration data, and forward Operations Sentinel alerts as SNMP traps to other SNMP listeners. Also, Operations Sentinel now supports Windows 10 and Microsoft Windows Server® 2016.

Enterprise Output Manager: Enterprise Output Manager includes the new Web Assistant RESTful service feature, which enables you to implement a heavily customized user interface. The mobile print feature is new, as well. With it, you can access files posted from the Web Assistant on a mobile app and send them to any printer configured in the Enterprise Output Manager Server. Additionally, seamless integration with enterprise content management (ECM) solutions helps you significantly improve business processes that rely heavily on high volumes of paper and electronic documents.

Security

ClearPath OS 2200 Release 17.0 builds on the proven security of the OS 2200 environment by adding over 30 new features to several key capabilities:

Single Sign On: OS 2200 has used Kerberos or NTLM protocols to support single sign on for several releases. However, each of those solutions required another Windows server in the domain to assist with authentication. The new TLS-secured single sign on feature in OS 2200 17.0 requires no additional server. You now have the ability to use your X.509 certificate from a smart card or elsewhere on your workstation to initiate TIP and Demand sessions with a terminal emulator that supports this new feature. **>>**

Apex: Originally introduced in ClearPath OS 2200 Release 15.0, Apex receives additional features – such as the ability to manage file security and quota sets and configure network authentication – that make it a comprehensive alternative to the Windows based Security Administration for OS 2200 Security Client application. You can also use the product's new security auditing features to report on changes to Access Control Records (ACRs) based on the ACR change log entries introduced in this release.

Network Security: Enhancements in CPComm, CPCommOS, and CryptoLib make OS 2200 17.0 the most secure release ever from a network communications standpoint. This release enhances OS 2200 Secure Hashing Algorithm version 2 (SHA-2) support with SHA-2-based signature creation. This is particularly important, as many browser vendors are phasing out support for SHA-1 signatures. It also supports enhanced security for PKCS private keys. And for Intel® based Dorado systems, OS 2200 17.0 includes Domain Name Security Extensions (DNSSEC) and support for virtual LANs.

Learn More About ClearPath OS 2200 17.0

We plan to update the OS 2200 homepage with information about the new features and enhancements included in OS 2200 17.0 as the release date approaches. And be sure to look for the OS 2200 17.0 Software Release Announcement, Planning and Migration Overview, and Software Product Catalog for further information about the new products, software, and enhancements included in the release.

And please do not hesitate to reach out to us if you need any assistance upgrading to OS 2200 17.0 or implementing any of the release's new features. We offer a portfolio of services that can help you quickly benefit from everything the new release has to offer. In addition, our services team can assist you in exploring opportunities and identifying and executing projects that will help you progress your application modernization, data center automation, and data center health monitoring initiatives. Please contact your Unisys sales representative for details.

The New ClearPath Forward Services Portfolio: Optimization Starts Here

We're in the midst of a digital revolution.

Mobile and cloud technologies, big data, and the Internet of Things (IoT) are changing the face of the business world, requiring companies to find new ways to cater to consumers who demand more capabilities, easier access, and better services.

This environment emphasizes the importance of sustained, ongoing innovation. But at the same time, running the business remains equally important, forcing companies to balance innovation initiatives with the continued need to support existing systems and processes.

As a result, organizations need to find ways to reduce the effort and time required to maintain their existing systems, so they can support innovation without putting their operations at risk.

With the new ClearPath Forward Services portfolio, you'll have the resources you need to strike an optimal balance between innovation, continuous delivery, and operations.
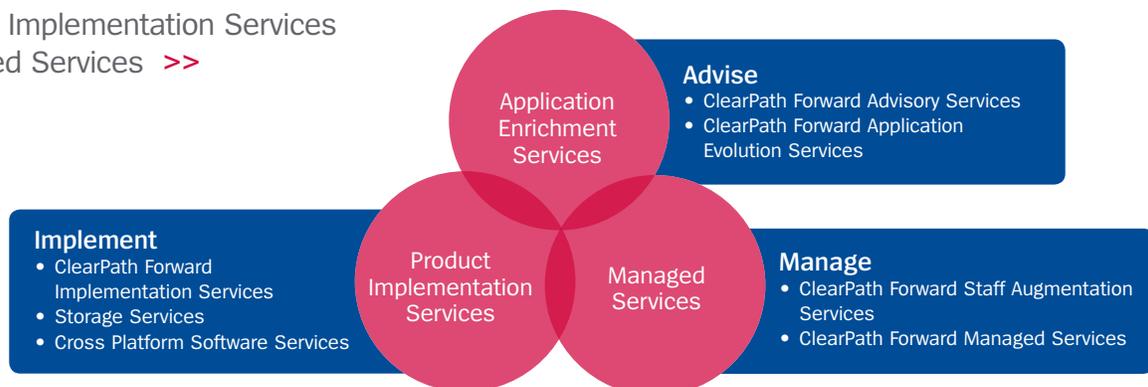
Streamlined Portfolio, Comprehensive Services

An integrated, holistic set of services that help you maximize your investments in ClearPath Forward applications, infrastructure, tools, and skills, ClearPath Forward Services enable you to leverage the modernization, integration, and automation capabilities inherent in the environment to maximize the return your ClearPath Forward investments deliver. What's more, the portfolio can even manage the entire infrastructure on your behalf.

This way, you'll make it easier to manage "business as usual," so you can free up time, energy, and budget for strategic projects.

All of this is made possible by the **three pillars** underpinning the new ClearPath Forward Services portfolio:
- Application Enrichment Services
- Product Implementation Services
- Managed Services >>

Application Enrichment Services

Advise
- ClearPath Forward Advisory Services
- ClearPath Forward Application Evolution Services

Product Implementation Services

Managed Services

Implement
- ClearPath Forward Implementation Services
- Storage Services
- Cross Platform Software Services

Manage
- ClearPath Forward Staff Augmentation Services
- ClearPath Forward Managed Services

Application Enrichment Services

To help you drive incremental and stable technology modernization efforts – without disrupting ongoing business processes – our Application Enrichment Services simplify the effort needed to incorporate your ClearPath Forward system into your overall data center environment.

Our Application Enrichment Services include the following components:

- **ClearPath Forward Advisory Services:** With these services, you'll be able to assess and align the ClearPath Forward application initiatives that best support your key business priorities and IT best practices. This includes identifying, categorizing, prioritizing, and developing high-level business cases and implementation roadmaps for the most promising opportunities. Learn more.

- **ClearPath Forward Application Evolution Services:** ClearPath Forward Application Evolution Services offer a range of capabilities that can help modernize your ClearPath Forward applications in a manner that avoids high costs and excessive risks. Learn more.

Product Implementation Services

When you use our Product Implementation Services, you'll be able to develop and deploy an implementation strategy that extends to all aspects of IT service delivery, helping to ensure your ClearPath Forward systems and related technologies stay up to date with current software and hardware levels, while reflecting future capacity needs.

Our Product Implementation Services include the following components:

- **ClearPath Forward Implementation Services:** From configuration and installation to implementation and training, you can rely on ClearPath Forward Implementation Services to help you keep your ClearPath Forward environment primed to take advantage of the most contemporary hardware and software features. Learn more.

- **Storage Services:** To help your storage environment keep pace with exploding data volumes, our Storage Services relieve much of the burden related to configuring, installing, testing, and migrating data between a wide array of storage platforms – disk, flash, tape, virtual tape, mirroring, backup, and more. Learn more.

- **Cross Platform Software Services:** Built to help you get the most out of such Unisys solutions as Agile Business Suite (AB Suite®), Business Information Server, Data Exchange, and Enterprise Output Manager, our Cross Platform Software Services will configure, install, implement, and train you to use these and other software offerings across the enterprise. Learn more.

Managed Services

With the help of our Managed Services, you can overcome the limitations staffing and resource shortfalls place on your organization, make sure your business-critical ClearPath Forward systems and applications – as well as the infrastructure in which they run – continue to function at peak performance, and remain focused on the innovation initiatives you need to stay relevant and differentiated.

Our Managed Services include the following components:

- **ClearPath Forward Staff Augmentation Services:** By drawing upon our deep pool of proven ClearPath Forward experts, ClearPath Forward Staff Augmentation Services deliver the flexibility and scalability you need to keep pace with changing business goals and fluctuating demand for specific skill sets and resource levels. Learn more.

- **ClearPath Forward Managed Services:** Leveraging our worldwide network of delivery centers and global service management platform, ClearPath Forward Managed Services can oversee parts or all of your ClearPath Forward infrastructure – and even your entire data center – so you can focus on running your business, not IT. Learn more.

The ClearPath Forward Services portfolio is purpose-built to help you enrich the value of your ClearPath Forward applications, data, and systems. To see how these services could be put to use in your organization, please contact your Unisys sales representative.

Consolidated Traffic Console:
Data Center Monitoring Made Easier

You know how important it is to maintain and maximize the availability of the business-critical systems your organization, its partners, and external consumers rely on day in, day out. The trouble is, as your IT environment encompasses more connections, processes, and technologies, monitoring everything becomes exponentially more complicated, costly, and time-consuming.

Fortunately, though, we have a new service designed to alleviate these complexities and help your data center operate with greater efficiency and reliability: Consolidated Traffic Console (CTC).

A customized data center automation offering based around Unisys Operations Sentinel, CTC leverages our experience and best practices – along with the lessons learned from working closely with clients around the world – to extend and enhance the product's existing capabilities in ways that help you accomplish your data center monitoring objectives.

How It Works

The CTC Dashboard provides a customized Topology View that takes the key performance indicators (KPIs) captured by Operations Sentinel and filters them through a client-centric data center operations context.

Standard Operations Sentinel views can still be shown alongside, or within, CTC. Audible alerting is available as well. Together, this automation package helps to reduce risk and improve the management of ClearPath MCP and OS 2200, UNIX®, and Linux® environments, as well as data replication solutions and virtual tape systems.

With the help of CTC, you'll be able to increase the operational quality of your most important systems. Moreover, knowing that a crucial system value, such as queued transactions, is exceeding an expected threshold eliminates the need for your operators to "screen scrape" each system console, helping to reduce costs. More importantly, it enhances awareness, enabling them to take concrete steps toward identifying and resolving a problem before it becomes a major issue. **>>**

CTC in Action

Below are a few examples of CTC running at MCP and OS 2200 client sites. The annotations describe the specific CTC Dashboard use case captured on each image.

This critical exception causes an audible alert loud enough to draw an operator's attention to the problem.

More detail for all exceptions is available through the standard Operations Sentinel user interface. Alerts may be marked "seen," "cleared," or "acknowledged" to prevent alert immunity, clearing the UI for future exceptions.

Other exceptions, possibly related to the critical issue, may be seen with a quick mouse-over. This assists in problem definition and resolution. The system console is also available through CTC launch points.

The solution described earlier in this article was recently implemented at a large European bank.

Unisys Operations

| Libra Servers | VTL | EMC DR Automation |
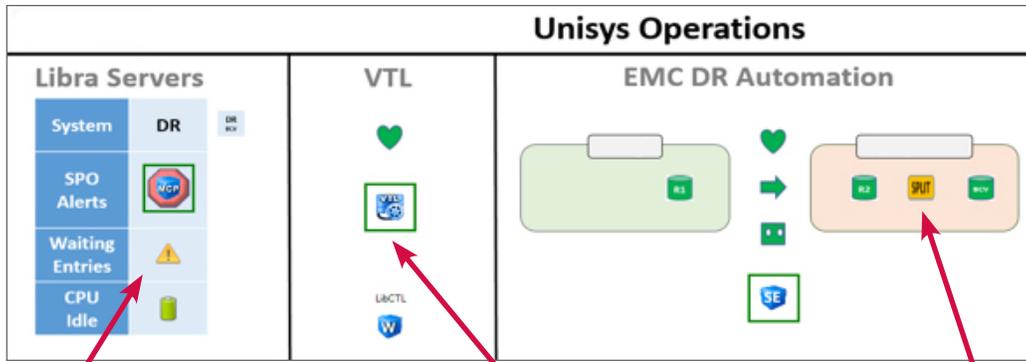
Exceptions are obvious with a simplified UI, which may be crafted for a wider audience (help desk, management, etc.).

VTL exceptions appear here, and user-friendly menus may be invoked to reliably perform important functions.

EMC Solutions Enabler automation tracks the state of important disaster recovery components, data links, and systems.

This example illustrates a simplified display that integrates with EMC® Solutions Enabler to monitor and automate EMC SRDF® and TimeFinder® operations, as well as a virtual tape library (VTL) from Dynamic Solutions International®. **>>**

Appl	CGO		D		P				I		
System	D380B3 G	D380B2 H	D280B2 D	D280C3 PA	TBD PB	D890B4 PC	D280B1 PD	D280C2 IA	D280B3 IB	D380B1 E	
XTC Id				A	B	C	D	A	B		
SPO Alerts	2200	2200	2200	2200		2200	2200	2200	2200	2200	
Txn Q'd											
Txn Rate		↘				↘		↗	↘	↗	
TIP %											
Idle %			▯				▯	▯	▯		
Holds			⚠	⚠			⚠				
R-R Msgs			⚠								

Transaction KPIs are represented as rising or falling, offering a sense of real-time system activity.

Host icons provide overall alerting states and a launch point for system consoles when manual actions are required.

System hold conditions are easily identified at a high level, while details are obtained by a mouse-over or click.

This final example shows how a large client created a customized CTC dashboard to consolidate console traffic for 16 OS 2200 systems in a way that makes intuitive sense to its data center operators.

Ready to Get Started?

While every data center is different, Operations Sentinel is powerful and flexible enough to meet nearly any challenge. If members of your team have sufficient Operations Sentinel knowledge, you could implement CTC yourself. However, we recommend working together on a customized automation consulting service engagement that combines our prior experiences with industry best practices to deliver the highest ROI automation deliverables in the shortest time possible.

Please contact Jim Malnati, Rob Jamieson, or your Unisys sales representative for more information regarding these and other exciting data center automation services.

Introducing the ClearPath Visual IDE

We're excited to announce the availability of an all-new product for ClearPath Forward MCP systems: the ClearPath Visual IDE.

An optional offering that's available for all MCP systems and ClearPath Software Series products – and bundled in with all editions of ClearPath MCP Developer Studio – the ClearPath Visual IDE extends the capabilities of Microsoft Visual Studio®, enabling you to use the environment to develop ClearPath applications.

A Visual Studio plug-in, the ClearPath Visual IDE allows you to:

- **Create MCP projects:** You can use a predefined MCP 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 your projects.

- **Create and edit MCP source files:** With the Visual Studio code editor, you can create and edit MCP source files in the following languages:
  - COBOL74
  - COBOL85
  - ALGOL
  - DMALGOL
  - DCALGOL
  - NEWP

- **Create patches for MCP source files:** In addition to building patches for existing MCP source files, you can build the project with the patches, test it without applying patches to the original source file, import and export patches, and revert patch changes.

- **Support source control:** You can use native Visual Studio source control features to easily manage both individual and team projects.

- **Build MCP applications and libraries:** The ClearPath Visual IDE gives you the freedom to edit the default configurations assigned to applications and libraries within a project, or even create your own configurations.

- **Run MCP applications:** Once the build completes, you can use the ClearPath Visual IDE to run your MCP applications.

- **Debug MCP applications with TADS:** When debugging applications using the Test and Debug System (TADS), you have to ability to view both output and TADS messages, respond to waiting entries on the host, and issue TADS commands.

With the help of the ClearPath Visual IDE, you'll be able to:

- **Help developers become productive faster:** When you use the ClearPath Visual IDE, you can tap into the large community of Visual Studio developers and draw on their experience to shorten the time required to become productive ClearPath application developers.

- **Reduce the cost of developing distributed applications:** When you combine the ClearPath Visual IDE with other Visual Studio plug-ins, your developers can use a single tool to create distributed applications with components running in different environments, such as ClearPath MCP, AB Suite, ClearPath Forward ePortal, and Microsoft Windows.

For additional details about the ClearPath Visual IDE, including configuration, compatibility, and licensing requirements, please visit our web site.

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 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 Forward Systems (**Updated**)
- eBook: Understanding the Economics of ClearPath Systems
- eBook: How to Shift Your IT Focus from Administration to Innovation

- Video Playlist: ClearPath OS 2200 Software Release 16.0 Technical Update (**24 Videos**)
- 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* June 2016
- Newsletter: ClearPath Forward Connection June 2016
- White Paper: ClearPath Middleware Strategy and Products for OS 2200 Systems
- White Paper: ClearPath Middleware Strategy and Products for MCP Systems