UNISYS | Securing Your Tomorrow™

ClearPath Forward Connection

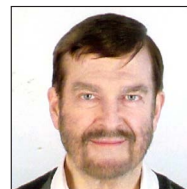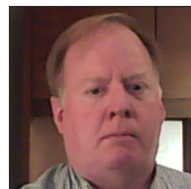## A Quarterly Newsletter for Unisys ClearPath Forward Clients

Contents

What it Means to be Secure

By Mike Kain and Dr. Glen E. Newton, ClearPath Security Architects, Unisys

What do we think about when we think about security?

Is it confidentiality – the assurance that your intellectual property is safe from those who want to steal and exploit it? Is it integrity – the knowledge that your essential business data can't be modified or destroyed by hackers? Or is it the certainty that you have provisions in place that will continue to make your systems available in the face of failures or denial-of-service attacks?

The answer, unsurprisingly, is all this and so much else. More so than any issue impacting IT today, security is the most complicated, multi-faceted, and ever-changing. And it's also the most critical. At a time when one small exposure can devalue a company's brand, you simply have to get security right.

It should be reassuring, then, that in a continually changing threat landscape, you have the tested, proven security of the ClearPath Forward™ environment on your side.

Security in Our DNA

Security is at the very heart of what defines a ClearPath Forward system. It's been built from the ground up since day one. It's in our DNA.

From the start, our approach has focused on isolating the applications running within each system to prevent them from accessing one another's data unless it's explicitly shared. **>>**

ClearPath Forward
Over 180 Videos Online!

ClearPath Forward Connection

While the hardware architecture underpinning the systems has changed dramatically – shifting from proprietary chipsets to an all Intel® foundation – every bit of this approach is still present.

It's just moved into the ClearPath® firmware. And it's even emulated in the software-only deliverables offered under the ClearPath Software Series umbrella.

It's evident in the ClearPath MCP and OS 2200 operating environments, too. Leveraging the principle of least privilege, the MCP and OS 2200 environments let you defend against unauthorized data access and modification by permitting users to do only what's required to perform their day-to-day responsibilities, nothing more. And with robust auditing and recovery capabilities, you have the tools to detect accidental or malicious actions and apply sophisticated recovery techniques to restore them.

The ClearPath Forward environment also provides robust identification and system access controls, as well as cryptographic processes designed to support secure data interchanges and protect the data stored on your system. You can even control access for each authorized user at the file and database object levels.

What's more, because your environment routinely interacts with networks that include hundreds or even thousands of external systems, a vital aspect of security is the ability to isolate the trusted components from the rest.

That's where the Unisys Stealth® security portfolio comes into play. Unlike firewalls, which allow or disallow traffic based on network addresses, Stealth bases its access decisions on user identities. It conceals endpoints from unauthorized users, making your ClearPath Forward environment invisible to an attacker's eyes. At the same time, Stealth allows and encrypts network traffic based on communities of interest (COIs) that you define, providing yet another layer of protection.

And finally, through partnerships with third-party vendors, such as Locum Software and Formula Consultants, Inc., we're able to complement our security measures with a number of tools that were designed to function effectively within the infrastructure.

This multi-layered approach means there's no need to seek out, implement, and integrate your own security infrastructure. It's all done for you, all right within the ClearPath Forward environment, release after release.

Never Stopping, Never Resting

Numerous security measures are certainly valuable. But to be truly effective, they must keep pace with the times. After all, a secure environment today could be vulnerable tomorrow.

That's why we're constantly evaluating our approach and incorporating standards, like the latest Payment Card Industry guidelines, as appropriate. Similarly, we routinely commission external, unbiased security reviews, such as the latest McAfee assessments of the OS 2200 and MCP operating environments, to evaluate how we're performing, see what's changed, and rework our policies and procedures in response. And we often work with clients to understand how their needs should be reflected in future updates.

Doing so helps us provide richer insights to our clients. This typically takes the form of security guides – single-source overviews of all things security, from how it works at a high level all the way down to configuration specifics. In this way, the guides make it easier to tailor security measures to your needs. They can also help you show your auditors just how safe your environment truly is.

Securing the Next Era

And as your operations take a turn towards application centricity – and use the Software Series to embrace software-only, hybrid-cloud operations – you won't have to worry about jeopardizing the safety and integrity of your critical applications and data. >>

The ClearPath Forward environment's proven security measures extend to new contexts – and are further complemented by the Stealth portfolio's ability to micro-segment your network.

When you protect your systems and data to this degree, you'll feel confident knowing that you're providing the same security you've grown accustomed to – without restricting your organization's ability to play an integral role in tomorrow's IT world.

For more about security and the ClearPath Forward environment, we encourage you to read the MCP and OS 2200 "Unsurpassed Security" white papers, as well as the "Thinking Security" posts on the ClearPath Forward & Innovation blog.

ClearPath MCP Release 18.0: Ready to Help You Compete at the Highest Level

We are excited to announce the availability of ClearPath MCP Release 18.0!

The newest major release of the system software for ClearPath Forward Libra systems and ClearPath Software Series products, MCP 18.0 delivers enhancements to a number of existing products, and introduces the brand-new Database Encryption product.

And, as with every new MCP software release, all of the products and features in MCP 18.0 have been designed, developed, and tested together, so you can trust they'll deliver the performance and reliability your business-critical applications demand.

With ClearPath MCP Release 18.0, you'll realize considerable benefits across three important areas:

• Application scalability
• Security
• Integration and interoperability

Application Scalability

With MCP 18.0, you'll be able to make your applications more scalable, so you can:

• Significantly improve networking throughput
• Expand your transaction processing capabilities

Here's how:

• **TCP/IP Interprocess Communication Services:** The re-architected TCP data path dramatically improves performance by offloading certain functions to the IOP firmware and NIC, offering a BNA over TCP service that can take advantage of this data path, and providing a new interactive configuration utility that enables TCP/IP connections to be configured independently of BNA.

• **Remote Database Backup (RDB):** With MCP 18.0, you can use TCP/IP as an alternative to BNA, enabling RDB to take advantage of improved TCP performance.

• **Transaction Server (COMS):** Transaction Server can now support up to 4,095 running programs – up from 2,047 in ClearPath MCP Release 17.0.

• **dbaTOOLS Analyzer:** Updates to the dbaTOOLS Analyzer product allow you to check the scans of all recent database snapshots for potential LimitErrors and then display or report on the results.

Security

With MCP 18.0, you can bolster the security of your environment by:

• Protecting sensitive data, including the data residing in Enterprise Database Server for ClearPath MCP (DMSII) databases, from unauthorized access and tampering

• Automating audit and regulatory compliance activities

Here's how:

• **Database Encryption:** With this **brand-new** product, you'll be able to safeguard DMSII data and become better equipped to address audit, regulatory, and privacy requirements by encrypting items that contain sensitive data in database files, memory, audit files, and dump files.

• **SAN DataMover:** In MCP 18.0, SAN DataMover can now read and write disks encrypted by MCP Disk Encryption. >>

- **Secure Shell for ClearPath MCP:** The updated Secure Shell for ClearPath MCP product supports AES128-CTR and AES256-CTR encryption algorithms, as well as the Tectia SSH and IpSwitch WS_FTP SFTP clients, includes an API that allows applications to send commands to other systems, and allows you to deliver output to redirected files.

- **Web Enabler for ClearPath MCP:** You now have the ability to use any previously entered Microsoft® Windows® credentials to automatically log in to an MCP system.

- **Client Access Services:** In MCP 18.0, you have the option to require NTLMv2 authentication when logging things like logins and access violations.

- **File Transfer Protocol (FTP):** The FTP server can now log the REMOVE and CHANGE commands, increasing traceability, while also restricting FTP/STARTUP file contents in order to prevent end users from overriding global security settings.

- **Locum Software Products:** MCP 18.0 includes updates to the following Locum Software products:

  - *Locum Safe & Secure:* The product's new AdminDesk Basic Edition is bundled in all MCP operating environment packages.

  - *Locum SafeSurvey:* New reports in SafeSurvey include a software version report for SL, AI, and CFILE analysis, a Client Access Services report, and a PCI compliance report.

  - *Locum RealTime Monitor:* RealTime Monitor removes the requirement for a separate PC when using the RealTime Service, and also offers MCP-centric syslog handling.

  - *Locum SecureAudit:* SecureAudit now includes a port connections report, a DMSII transactions report, and an operator batch report with a SORT option, as well as an optional batch mode CSV output.

Integration and Interoperability

With MCP 18.0, you'll build an environment that's better equipped to:

- Combine business processes both within your organization and with external companies

- Reduce the requirements for MCP-specific skills, as well as the related costs

Here's how:

- **Client Access Services:** Support for the SMB2 protocol enables better ongoing compatibility with new versions of Windows.

- **Enterprise Output Manager:** Offered along with MCP 18.0, Enterprise Output Manager 13.0 includes:

  - Unisys Mobile EOM, which enables you to access and print files from mobile devices

  - Integration with enterprise content management (ECM) solutions

  - Built-in PDF printing

  - Changes to the Web Assistant that allow you to integrate the Web Assistant client with applications, customize the web pages used to access files, and enable users to select, zip, and download multiple files

- **Print System:** In MCP 18.0, you have the option to use an LPR I/O handler to send output to an LPD print server.

- **Operations Sentinel:** Operations Sentinel 16.0 is included in MCP 18.0. The latest version of our automated system management tool features several noteworthy enhancements:
  - The ability to send detected alerts as SNMP traps to other system management tools
  - The flexibility to monitor ClearPath Forward ePortal systems from the same pane of glass you use to control your other ClearPath Forward components
  - Configuration data recovery
  - Automatic synchronization of configuration data between servers
  - The ability for administrators to import and export alert policies along with configuration data
  - Backups for policy data
  - Compatibility with Microsoft Windows 10 and Microsoft Windows Server® 2016

- **TCP/IP Interprocess Communication Services:** The Dynamic Host Configuration Protocol (DHCP) enables your MCP system to automatically obtain IP addresses from a DHCP server, helping you avoid the need to manually configure IP addresses, while the Dynamic Domain Name System (DDNS) makes it possible for other systems to find yours by publishing its Host Name and IP addresses to domain name system (DNS) servers.

- **SECURITYSUPPORT Library:** With the "hot swap" capability, you'll be able to update the SYSTEM/SECURITYSUPPORT library without restarting all message control systems linked to it.

Ready to Learn More?

Check out the MCP homepage to learn about the updates and enhancements included in MCP Release 18.0. And for even more information about what's new in this release, be sure to check out the 21 technical videos included in the ClearPath MCP Release 18.0 Technical Update playlist. It's available on YouTube and our support site. We also encourage you to watch the MCP 18.0 announcement webinar.

Game On: The New Dorados Have Arrived

New Intel® components. Expanded I/O capacities. A new, high-speed networking connection. And the latest ClearPath Forward infrastructure.

It's all included in the seven new members of the ClearPath Forward Dorado family: The Dorado 4470, 4480, 4490, 6480, 6490, 8480, and 8490 systems.

Powerhouse Performance

For the most demanding OS 2200 workloads, the premium high-end Dorado 8480 and 8490 systems break new ground in the areas of single-thread, single-image, and single-system performance. These new powerhouses deliver single-thread performance of 680 MIPS and can support a maximum of 8,000 MIPS per partition image – over 25% more performance capacity than fully configured Dorado 880 and 890 systems. In their dual-partition configurations, the Dorado 8400 systems can support up to 16,000 MIPS, while providing full I/O capacity for each partition, all in a single, standard cabinet.

High-End, Redefined

Perfect for many large OS 2200 installations, the new Dorado 6480 and 6490 systems deliver single-thread performance of 550 MIPS and single-image performance of up to 4,000 MIPS. You also have the option to configure the systems in a dual-partition setup, which will further expand overall processing capacity to a maximum of 8,000 MIPS.

Anything but Entry Level

Rounding out the new Dorado releases are the Dorado 4470, 4480, and 4490 systems. With single-thread performance of 450 MIPS, these systems

strike the perfect balance between processing power and cost. The mid-range Dorado 4480 and 4490 systems support up to 2,000 single-image MIPS and 4,000 MIPS in a dual-partition configuration. Meanwhile, the specially configured Dorado 4470 system provides cost-effective, metered-only performance of 10-200 MIPS, making it ideal for application development efforts or other small workloads.

There's More...

No matter which new Dorado system you choose, you'll benefit from numerous advances that help you operate with greater flexibility, efficiency, and resiliency.

Because these systems leverage the innovative ClearPath Forward infrastructure, they give you the option to add Enterprise Partitionable Platforms (EPPs) that can be divided into unique environments dedicated to Windows or Linux® workloads. Each system offers the flexibility to grow to a maximum of 12 EPPs, giving you numerous options for advanced workload integration.

With the enhanced I/O Storage Module (ISM) included in these systems, you'll get up to 40% more I/Os per second than the existing Dorado 4300, 6300, and 8300 systems, helping you run even the largest OS 2200 workloads without worrying about I/O performance restrictions. **>>**

And you'll be able to keep these workloads running with the help of built-in redundancy that spans all areas of the systems. Each system contains two ISMs and Processor Memory Modules (PMMs) – one active, one standby – so should one go down, the system will continue to operate as if nothing happened. Plus, because the new Dorado systems can participate in an eXtended Processing Complex Lock release 4 (XPC-L4) cluster, you'll be able to further increase both scalability and resiliency.

Want to learn more? Then visit the ClearPath Forward Dorado homepage, or check out the announcement webinar, for a closer look at everything these new systems have to offer, as well as all the great things they can help your business accomplish. And if you need any assistance implementing your new Dorado system, the ClearPath Forward Services portfolio – and our Product Implementation Services in particular – can help you get up and running in a quick, low-risk manner.

Make Way for the Newest Libra Systems

Our commitment to continually innovating and evolving the ClearPath Forward Libra family has for years resulted in systems that deliver the utmost in business-critical security, performance, availability, and scalability.

And now, we've done it again. Say hello to our newest, most innovative, most powerful ClearPath Forward Libra systems yet.

The Systems

The all-new ClearPath Forward Libra 6400 and 8400 systems represent a complete refresh of the existing Libra 6300 and 8300 families. With new Intel® components, more I/O connections, faster networking, and the flexibility to support a wide range of enterprise workloads, these new systems are tailor-made to help you succeed in today's dynamic business world.

Built to run even the most demanding MCP workloads with ease, the premium high-end **Libra 8480 and 8490 systems** establish new levels of single-thread and single-image performance, delivering a maximum of 800 and 11,500 MIPS, respectively. With this impressive single-image performance, the Libra 8400 systems offer double the capacity of a fully configured Libra 800 system.

Delivering the high-end characteristics many large MCP installations demand, the **Libra 6480 and 6490 systems** offer single-thread performance of

600 MIPS and single-image performance of up to 4,800 MIPS – well beyond what's provided by all current Libra 700 systems and even some smaller Libra 800 systems.

The Goodness Behind the Scenes

While the Libra 6400 and 8400 systems certainly deliver impressive performance, there's much more packed into these new models than just raw power.

The systems boast expansive I/O capacities – a maximum of 180,000 I/Os per second for the Libra 6400 systems and 200,000 I/Os per second for the Libra 8400 systems – giving you the freedom to run larger and larger workloads without I/O constraints.

With optional Enterprise Partitionable Platforms (EPPs), you'll be able to configure the Libra 6400 and 8400 systems with unique environments that can support Unisys designed, internally developed, and third-party Windows or Linux workloads. Each system can expand to a maximum of 12 EPPs, providing the flexibility to deploy and integrate workloads in a number of ways. **>>**

And with standard redundant components in all areas of the hardware, you'll feel confident that you're operating a system with the highest levels of resiliency, reliability, and availability. For example, the Libra 6400 and 8400 systems feature two I/O Service Modules (ISMs) and two Processor Memory Modules (PMMs) – one active and one deployed in a standby state. This way, in the rare event that either the active ISM or PMM fails, the system will quickly recover, resume operations, and continue functioning as expected – all without disrupting your production workloads.

If you'd like to learn more about the newest members of the ClearPath Forward Libra family, please check out the Libra homepage, or view the announcement webinar, for additional details about all the ways you can put the systems to use in your organization. And if you need help deploying your new Libra system, our Product Implementation Services – part of the ClearPath Forward Services portfolio – can help you put it in place and get up and running fast.

How Will You Use the ClearPath MCP Software Series?

By now, you're no doubt aware that the ClearPath MCP Software Series products give you the unparalleled freedom to deploy the ClearPath environment's enterprise-class computing capabilities on industry-standard hardware and hypervisors.

But just how flexible is this environment? Can it meet all of your needs?

Because every IT environment is different, each one represents an opportunity to deploy a ClearPath MCP system is a way that exceeds your expectations. Here are just a few options.

Option 1: Go Virtual

Say you wish to use the Software Series in your organization's existing VMware or Microsoft Hyper-V® environment. Then the ClearPath MCP Developer Studio product will work just fine. Simply set up a new virtual machine with sufficient cores, RAM, and storage, and deploy it into your own private cloud. Then, you'll be able to do things like migrate your MCP environment across physical servers using VMware VMotion™, access assets from remote locations, and even add more resources over time.

Or, if you're working on something that's a bit risky, you can take a snapshot before proceeding, making it possible to roll back to a known good state should you encounter any issues. Plus, the Software Series offers capabilities other environments don't. For example, in addition to allowing you to "hot" add a processor, the Software Series also lets you dynamically remove processors.

But what if you're running at very high utilization with a single processor and you know you have a spike in work coming? Then you'll need additional Central Processing Modules (CPMs). How many your system can support is determined by how many processor cores you have available and the model of ClearPath Software Series you're running. As long as they have been defined in the Peripheral Control Diagram, bringing them online is as simple as entering "RY CPM 1,2." That brings up two more MCP processors without any service interruption. And then, when demand returns to a normal level, you can dynamically save those processors by entering "SV CPM 1,2."

Option 2: Make it Portable

Maybe you'd prefer something more portable? If so, a common deployment is the ClearPath MCP Developer Studio Personal Edition product on a laptop. What's special about this option is it allows you to have a full MCP development environment on hand at all times, making it perfect for things like demonstrating your products and services to a prospective client or running a talk at an industry convention.

Best of all, the hardware requirements are quite modest. All you need is an x64 environment and multiple cores – both of which are the norm in today's commodity hardware. The number of cores you'll need depends on how large an MCP environment you want. If it's just a single MCP processor, then we recommend at least two cores. Since a majority of laptops come equipped with four cores, you probably have enough resources to accommodate an MCP multiprocessing environment. You can see how your target laptop stacks up by referring to the ClearPath MCP Software Series Compatibility Guide. **>>**

Option 3: Keep it on Your Desk

But what if you don't want a portable environment? What if you already have a nice new Intel® processor with a large memory capacity? Not a problem. With a large multi-core processor, generous RAM, and a snappy SSD, you can implement a responsive MCP environment with very little effort. Since the Software Series leverages logical disk technology, you're free to have your MCP storage reside on your SSD.

Having ClearPath MCP Developer Studio Personal Edition on your desktop is great for corporate settings where a large MCP system is already used for production. By configuring MCP networking on your desktop and allowing it to access your production system, it makes software deployments and updates as simple as a network transfer. This way, you can take a common statement used to copy a file from one pack to another – "copy (GEORGE)MyNewUpdate as (PROD) MyNewUpdate from users(pack) to production(pack)" – and alter it to copy from one host to another: "copy (GEORGE)MyNewUpdate as (PROD) MyNewUpdate from users(pack) to production(pack, hostname = ProdLibra8490)."

Whether it's a large data center or a laptop you carry around the world, the ClearPath MCP Software Series gives you the freedom to deploy your MCP applications in whichever manner best satisfies your needs. To learn more about how you can put ClearPath MCP Developer Studio to work in your business, please visit our web site. And if you need help figuring out which Software Series product is right for you, then we encourage you to set up a services engagement.

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
- 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 MCP Software Release 18.0 Technical Update (**21 Videos**)
- Video Playlist: ClearPath OS 2200 Software Release 17.0 Technical Update (**27 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 April 2017