ClearPath Forward® Product Roadmap

ClearPath Forward Solution Management

SEPTEMBER 28, 2023

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Statements about future product releases are based on current plans that are subject to change and non-binding.

SAFE HARBOR STATEMENT

ClearPath®
Software Strategy and Direction

01 Choose where you deploy ClearPath workloads

02 Integrate ClearPath into the cloud – and keep it secure

03 Enable digital transformation – transactions and data

04 Extend MCP & OS 2200 applications with Python and Java

Roadmap Subject to Change. Updated September 27, 2023. Expires December 31, 2023

ClearPath Forward Platforms

Systems and Software

01

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ClearPath Forward® Fits Your Current Needs

PRE-INTEGRATED SYSTEMS
on-premises, Unisys or co-location hosted

PRIVATE CLOUD
deployment on VMware or bare-metal on-premises, Unisys or co-location hosted

PUBLIC CLOUD
deployment on Microsoft Azure 2022-23 AWS 2024-2025

Unisys ClearPath Managed Services Available

Roadmap Subject to Change. Updated September 27, 2023. Expires December 31, 2023

ClearPath Forward® OS 2200 / Dorado Product Portfolio

OS 2200
Software Series

Dorado
Integrated Systems

new

Dev Studio

OS 2200 Platinum
Capacity or Consumption

OS 2200 Gold
Capacity or Consumption

SAIL Linux
Azure, VMware on AWS

Dev Studio

OS 2200 Platinum
Capacity or Consumption

OS 2200 Gold
Capacity or Consumption

SAIL Linux
VMware

Dorado 8500
925 MIPS Single Thread
12,000 MIPS Single Image
Premium

Dorado 6500
550 MIPS Single Thread
5,000 MIPS Single Image
High-end

Dorado 4500
450 MIPS Single Thread
2,000 MIPS Single Image
Mid-range

Available through 1Q 2024,
supported through 2028

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ClearPath Forward® 4 Year Roadmap

Libra / MCP
- ✓ MCP Software Release 21.0
- ✓ MCP Software Series 5.0
- ✓ MCP Software Series 4.0, 5.0 VMware on AWS

Dorado/OS 2200
- ✓ OS 2200 Software Release 20.0
- ✓ OS 2200 Software Series 3.0
- ✓ OS 2200 Software Series 3.0 VMware on AWS

Cross-Platform
- ✓ BIS 51R1 / 15R1 / 15.1

2023

Libra / MCP
- Libra 4600, 6600, 8600, FS860
- MCP Software Series 5.1 (AWS)

Dorado/OS 2200
- Dorado 4600, 6600, 8600
- XPC-L 6.0
- OS 2200 Software Release 21.0

Cross-Platform
- AB Suite 9.0
- ePortal 12.0
- Data Exchange 8.0

2024

Libra / MCP
- MCP Software Release 22.0
- MCP Software Series 6.0

Dorado/OS 2200
- OS 2200 Software Series 4.0
  - Titanium (Premium), AWS

Cross-Platform
- AB Suite 10.0
- BIS 52R1 / 16R1 / 16.1
- ePortal 13.0

2025

Libra / MCP
- MCP Software Series 6.1

Dorado/OS 2200
- OS 2200 Software Release 22.0

Cross-Platform
- Data Exchange 9.0

2026

ClearPath OS 2200

Systems and Software

02

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ClearPath Forward® – OS 2200 Systems and Software

4 YEAR ROADMAP

2023

✓ Software Release 20.0
- IPSEC
- TLS 1.3
- Integration with 3rd party Radius compliant Multi-Factor Authentication tools

March 30, 2023

✓ Software Series 3.0
- Deployment for Azure
- Updates for Gold, Platinum, Dev Studio

June 14, 2023

- Support for VMware on AWS

September 29, 2023

2024

Dorado 4600/6600/8600
- Performance 8600 (1350/18,000 MIPS)
- Technology refresh

2Q 2024

XPC-L-6
- Technology refresh

3Q 2024

Software Release 21.0
- Host-based database and file encryption
- Post Quantum Encryption

4Q 2024

2025

Software Series 4.0
- Deployment for AWS
- Titanium Capacity Set (max performance on a single physical server)
- Updates for Gold, Platinum, Dev Studio
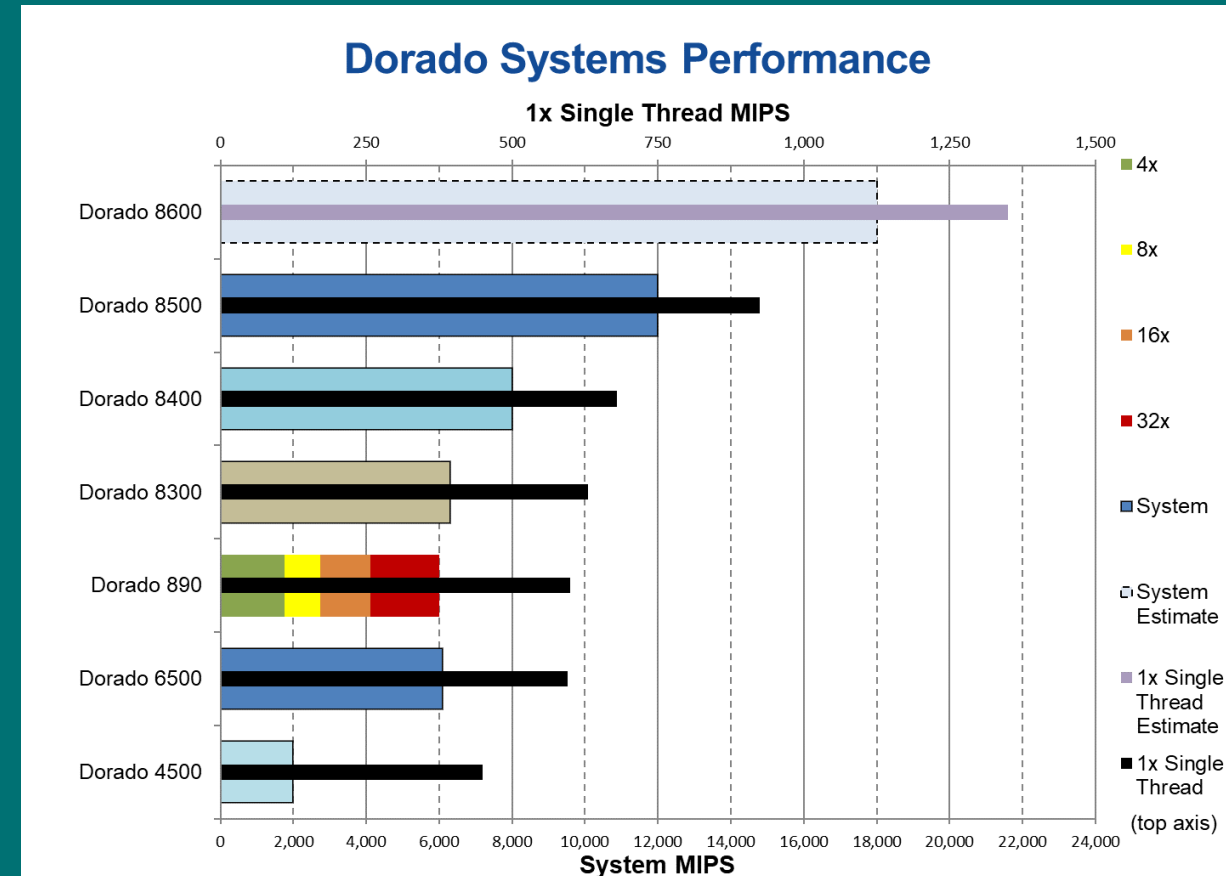- License management improvements

1H 2025

2026

Software Release 22.0
- More Post Quantum Cryptography features
- Additional TLS 1.3 implementation
- Two factor authentication

2Q 2026

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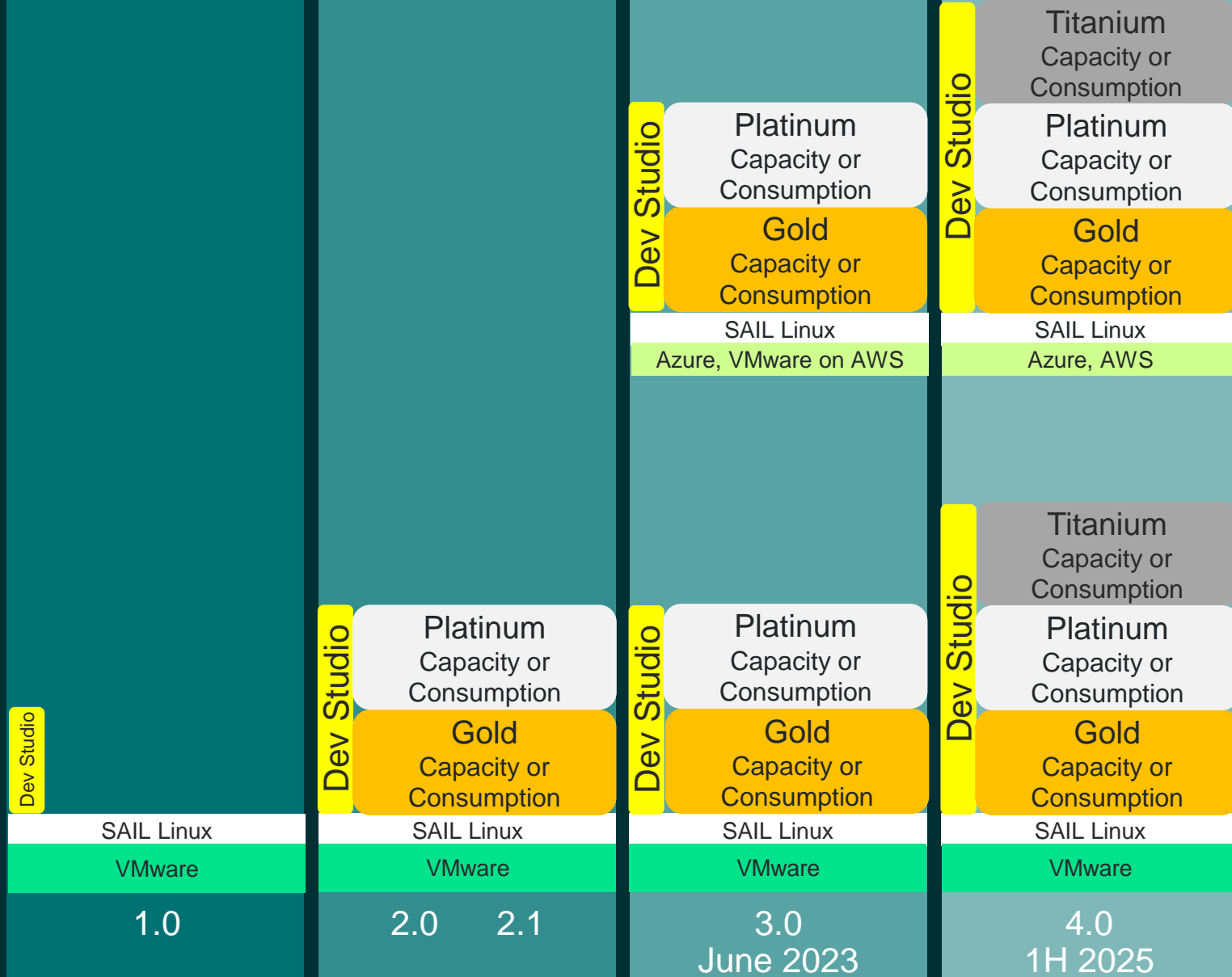
CLEARPATH FORWARD DORADO INTEGRATED SYSTEMS

- Integrated systems remain a key element of our portfolio

- Tracking workload growth of large clients to ensure we introduce new systems before they are needed

- Projecting need, and new premium performance systems by mid-2024

- Targeting 50% capacity growth, approaching 32 IPs

- Smaller, 5-10% single thread improvement
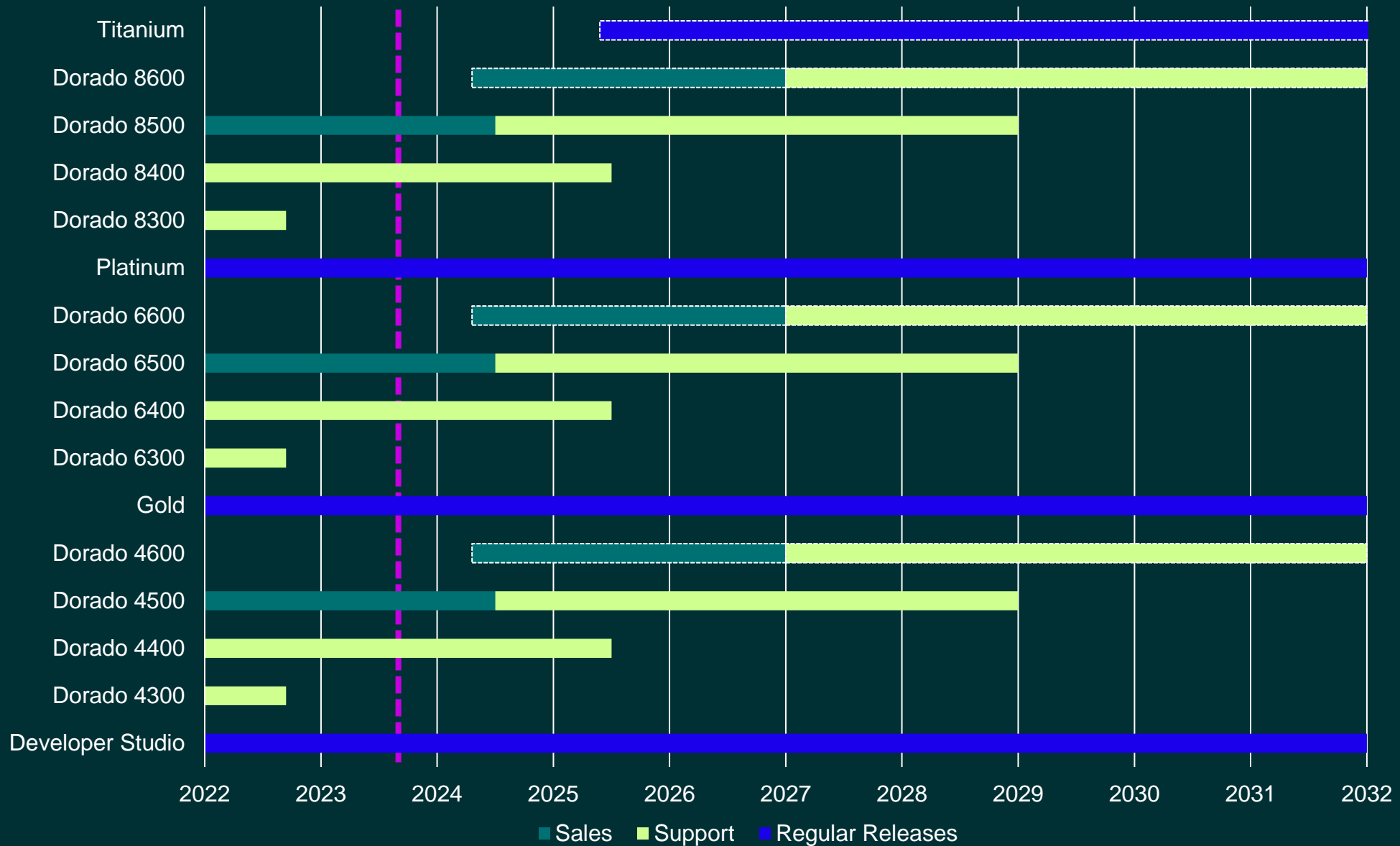
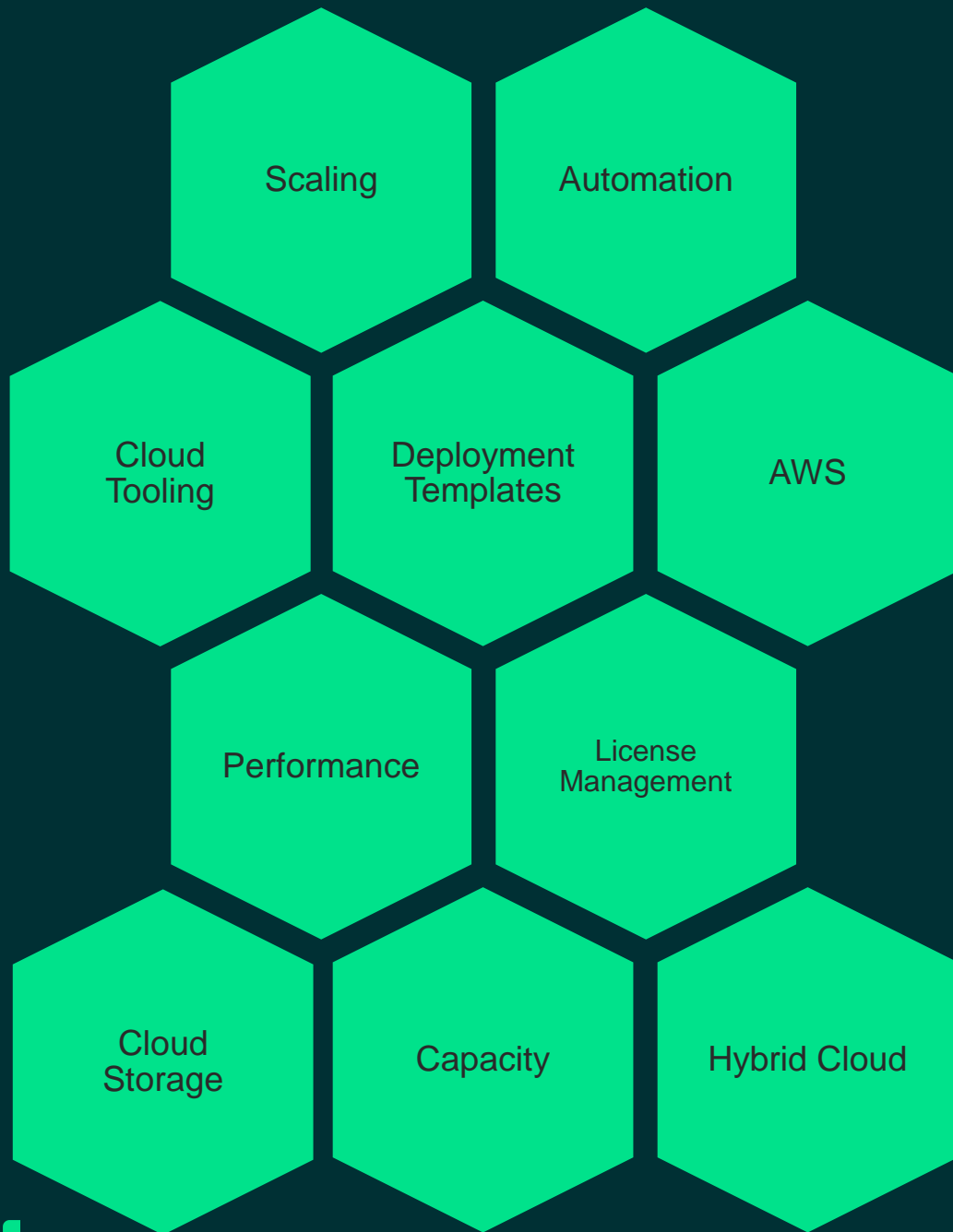- Now confident we will meet or exceed these targets

Dorado Systems Performance

Growing Capabilities & Confidence

Public Cloud

3.0 (June 2023)
- Dev Studio
- Platinum — Capacity or Consumption
- Gold — Capacity or Consumption
- SAIL Linux
- Azure, VMware on AWS

4.0 (1H 2025)
- Dev Studio
- Titanium — Capacity or Consumption
- Platinum — Capacity or Consumption
- Gold — Capacity or Consumption
- SAIL Linux
- Azure, AWS

Private Cloud

1.0
- Dev Studio
- SAIL Linux
- VMware

2.0   2.1
- Dev Studio
- Platinum — Capacity or Consumption
- Gold — Capacity or Consumption
- SAIL Linux
- VMware

3.0 (June 2023)
- Dev Studio
- Platinum — Capacity or Consumption
- Gold — Capacity or Consumption
- SAIL Linux
- VMware

4.0 (1H 2025)
- Dev Studio
- Titanium — Capacity or Consumption
- Platinum — Capacity or Consumption
- Gold — Capacity or Consumption
- SAIL Linux
- VMware

Version	1.0	2.0 2.1	3.0 June 2023	4.0 1H 2025

Transition from "on the cloud" to "in the cloud"

Scaling

Automation

Cloud Tooling

Deployment Templates

AWS

Performance

License Management

Cloud Storage

Capacity

Hybrid Cloud

NORTH Dakota | Job Service
Be Legendary.™

Delivering $1B Unemployment Benefits

> *"The COVID-19 pandemic has made it clear that we need to be more agile than ever in developing and deploying new applications to deliver benefits to citizens in immediate need. ClearPath MCP Software Series for Azure, combined with the Unisys CloudForte consulting services in the Azure GovCloud, enables us to achieve our goal while reducing costs, streamlining IT operations and enabling compliance with regulations."*

Pat Kelly, IT Director
Job Service North Dakota

- **Business challenge:** Provide services to citizens while addressing a surge in unemployment claims due to the COVID-19 pandemic and complying with new government programs.

- **Business outcomes:**
  - Processed unemployment benefits for 3.7 times more citizens from March to April 2020 due to the spike at the onset of COVID-19 (from 9.5k to 35.6k*)
  - Processed and paid out 14 times more claims (280k up from 20k) valued over a billion dollars in benefits (up from $80 million annually) during April '20 to October '21
  - Reduced recovery time from up to 2 weeks to a few minutes and increased production processing speed from 25% to a peak of 100%
  - Reduced capital-equipment costs (by minimizing the cost of maintaining a data center footprint and eliminating physical data tapes) and gained access to highly skilled resources available around the clock

- **Solution:** Unisys ClearPath® MCP Software Series for Microsoft Azure to transition applications from hardware-based systems to the GovCloud using CloudForte®; Azure Site Recovery; Application Services to develop and maintain mission-critical applications; virtual tape library; remote system monitoring, database administration, batch operations and systems administration.

*Source: U.S Bureau of Labor Statistics

Safe and Predictable Cloud Transition with ClearPath Forward

No third-party provider worries about how to balance cloud migration risk, time, and costs.

No worries about application code changes, refactoring, and re-architecting apps.

No worries about failed migrations and the effects it could have on business continuity and mission critical applications.

NO WORRIES

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ClearPath Forward® OS 2200 Software

RELEASE AND SUPPORT

RELEASE 18.0

Dorado x300, x400, x500, 4200, 800 Software Series 2.0

RELEASE 19.0

Dorado x300, x400, x500 Software Series 2.0

RELEASE 20.0

Dorado x400, x500, X600 Software Series 2.1, 3.0

RELEASE 21.0

Dorado x500, x600 Software Series 3.0, 4.0

RELEASE 22.0

Dorado x500, x600, Software Series 4.0, 5.0

Official end support dates documented here:
OS 2200 Software Support Plan

TODAY

UPGRADES MAY SKIP ONE RELEASE LEVEL - PROVIDE ONE YEAR TO MIGRATE TO RELEASE N+2

LAST RELEASE THAT SUPPORTS PLATFORM

2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2028 2029 2030

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ClearPath OS 2200 Software Release 20.0 Features

Security

- ***New*** WEB-SUPPORT product

- Transport Layer Security (TLS) 1.3 support in CPCommOS

- RADIUS Multifactor Authentication (MFA) support

- Enhanced connection security for cpFTP

- Client Authentication in COMAPI and CPCommOS
  - Unique certificates and private key for a session or connection

- Enhanced DEPCON security

- Enhanced Operations Sentinel user information logging

- IPsec encrypts all communication between OS 2200 and another device supporting IPsec such as Stealth Virtual Gateway (SVG)
  - HTTP client interface to send HTTP requests and receive HTTP responses over secure (SSL/TLS) connections as well as non-secure connections from a Uniform Resource Identifier (URI)

Performance

- System Performance Monitor Enhancements and Scaling (SPM)
  - Modernizes the collection of system statistical data through finer granularity while minimizing the impact of data collection on system performance

- IRU supports SPM audit trail enhancements

Ease of Use

- Improved DBAGENT enables RDMS database administrators to better maintain their databases

- New audit trail (SPMIOT) to improve both performance and maintainability

- Operations Sentinel Topology Editor enhancements

Detailed information on new features:
ClearPath OS 2200 Software Planning and Migration Overview for Release 20.0 (section 2)
ClearPath OS 2200 Release 20.0 Product Updates (voice over PPTs)

ClearPath OS 2200 Software Release 21.0 Features

Post Quantum Encryption

- Crypto agility and security focus in 2023

- Host-based database and file encryption

- Protect data in motion with TLS 1.3 protocol support

- File sharing protocol support for Server Message Block (SMB) v3.1.1

- CIPHER-API additional algorithm support

- OS 2200 product upgrades to SHA-2 algorithm

- CryptoLib FIPS 140-3 certification

- Quantum Resistant Encryption Algorithms implemented when NIST approved and available from partners

- Operations Sentinel component secure communication

- General security upgrades

Modernization

- DTP RA capability to work in a non-managed environment

- URU more modern, better performing database

- EXEC file control update to support larger disk sizes of modern EMC and DSI storage devices

- WEB-SUPPORT addition of a system library to support JSON processing

- Upgrade WMQ2200 to the latest version of IBM MQ

Ease of Use

- Software Instrumentation Package (SPM) improvements
  - Error message handling for SLC/SLB key-ins
  - Modernize demand response statistics
- EXEC MU keyin enhanced memory allocation statistics
- Operations Sentinel improved restart handling

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Addressing the Quantum Threat
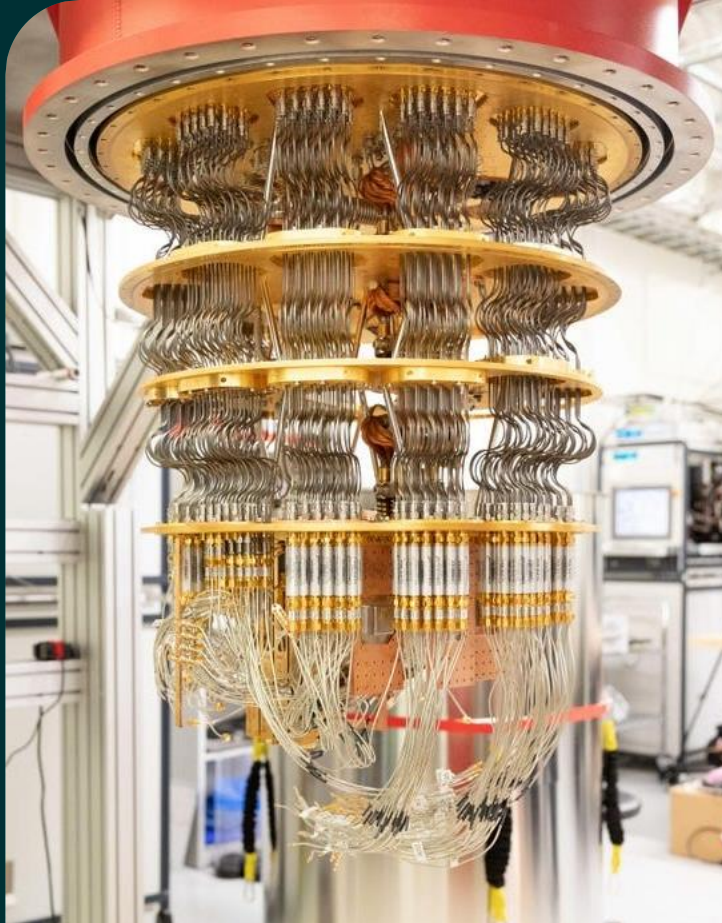
- Today's encryption relies on computers being unable to solve certain kinds of problems through brute force

- Quantum computers solve problems that standard computers can't, including some used for securing encryption. **This is the Quantum Threat.**

- To minimize the threat to our clients, we are making ClearPath platforms quantum resistant by leveraging **Post Quantum Cryptography (PQC)** as early as possible

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PQC Readiness: Unisys ClearPath vs. Industry Guidance*

NIST Readiness Steps dhs.gov	Industry Guidance RSAConference 2023*	Unisys ClearPath Timeline
PHASE 1 — Planning		
Awareness Creation & Preparation Phase	**Target 2023** Awareness, planning, & budgets	**Completed in 2022** Completed crypto inventory, QRE plan & budget review
Proactive Discovery & Engagement	**Target 2024** Crypto inventory, vendor engagement, & NIST Standards	**To Complete in 2023** Engaged partners & exploring solutions with PQC vendors
PHASE 2 — Execution		
Implementation	**Target 2025** Solutions selection, pilots, implementation, & testing	**Implementation in Progress** Implementing Crypto Agility in CPF, industry monitoring, & evaluating options.
Backup & Monitoring	**Target 2026** Backup Planning, crypto agility & monitoring	

*RSAConference 2023 - Preparing for Quantum: A Pragmatic Approach towards Readiness (Rapid 7, EvolutionQ)
Preparing for Post-Quantum Cryptography Infographic (dhs.gov)

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ClearPath Forward® – OS2200 Storage

6 QUARTER ROADMAP

3Q 2023	4Q 2023	1Q 2024	2Q 2024	3Q 2024	4Q 2024

✓ Dell Unity 5.3

- Regression qualification
- No new features to be tested

✓ DSI Restore v7 on CSS 3.0 Azure

- VTL Software:11.x
- OS: Oracle Enterprise Linux 8
- Azure Support

✓ Dell DLm 5.5.0.3

- Regression qualification
- No new features to be tested

✓ PowerMaxOS v175.0

- Dorado systems
- CSS22 2.1 bare metal

PowerMaxOS v175.0

- CSS22 3.0

PowerStore 4.0

- Replacement for Unity
- Qualification expected to begin in Q1 with beta code
- URD is expected by the end of Q2
- Unity sales to be discontinued when we start selling PowerStore

Not Qualified
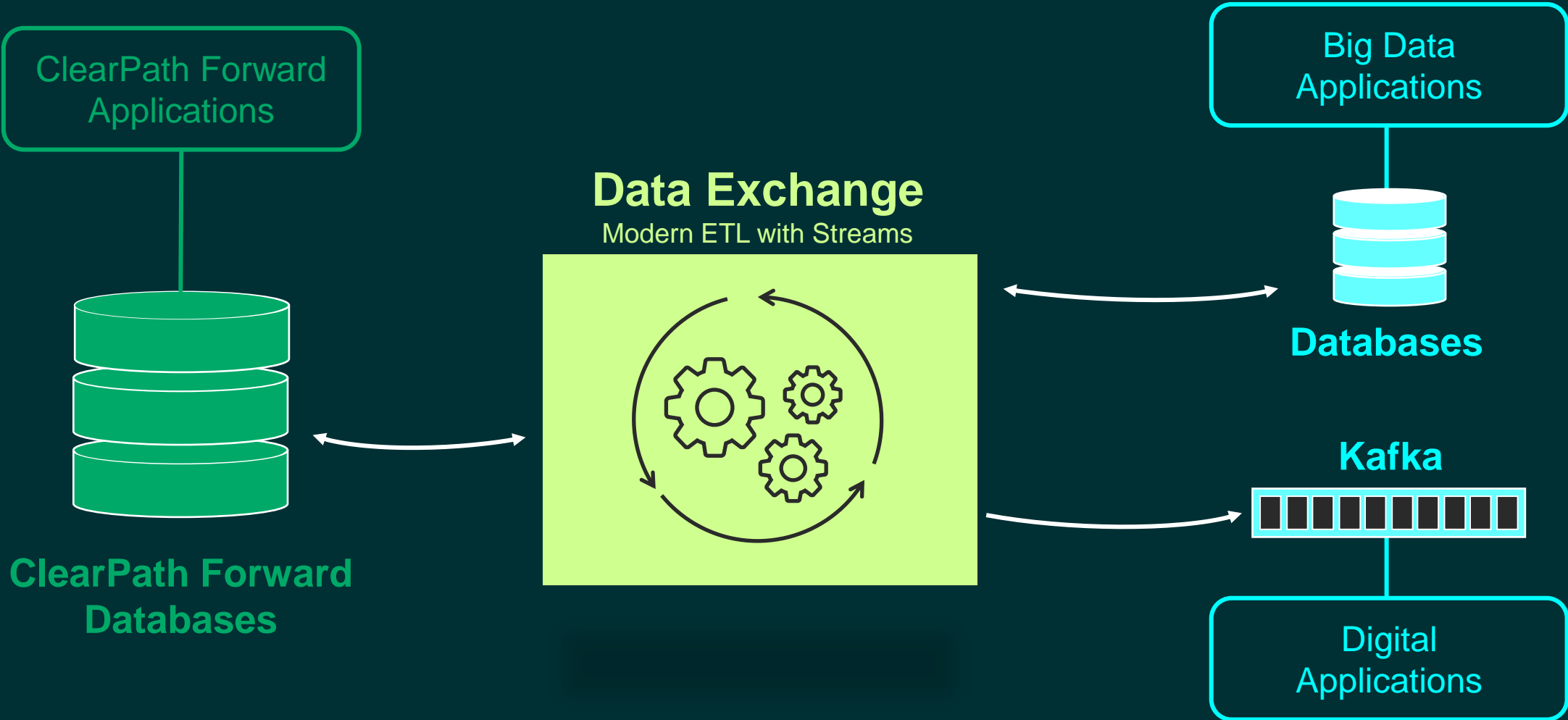- DLm with PowerMax
- Cyber Recovery

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ClearPath Forward Integration Software

Enable digital transformation – transactions and data

03

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Unisys Data Exchange

ClearPath Forward Applications

Data Exchange
Modern ETL with Streams

Big Data Applications

Databases

ClearPath Forward Databases

Kafka

Digital Applications

ClearPath Forward ePortal

CPF ePortal has an integral role in customer environments – Service Integration

CPF ePortal

The role of ePortal has evolved with each release and in line with ClearPath Forward vision.

The product has added capabilities – what our customers demand and where they are headed next

Freedom of Choice

Deployment Choices

- Available on **H/W Appliance** as Business and Enterprise offering
- **Comparable offerings** available in Software Edition
- ePortal Azure gives option to **use on Cloud**

Integration

Expanded capabilities Microservices

- The customer infrastructure is **additive**
- ePortal helps a customer even if they are on Green Screens or have opened up to ESBs or Transactional Interfaces
- At each stage ePortal can help in **opening up to** microservices

Cloud

Next Growth Avenue

- Provide option to use Azure services and infrastructure
- Allow usage on a Hybrid setup
- Act as enabler for CPF Cloud use cases

ClearPath Forward® – Cross Platform Software

2023 **2024** **2025** **2026**

4 YEAR ROADMAP

✓BIS 51R1 / 15.1
- AWS & Azure qualification
- User defined date/time formats

January 18, 2023

AB Suite 9.0
- Reduced downtime of AB Suite and High Availability
- Optimize application for easier maintenance
- DevOps and Security enhancements

January 2024

BIS 52R1 / 16R1 / 16.1
- MySQL 8.0 and Visual Studio 2022 qualification
- Additional database files (from 20 to 32 or 64)
- Support BIS MQ as well as IBM WebSphere MQ Remote Queue.
- Updates to Developer work bench
- Modifications to 'Optional Adjust run choices'

1Q 2025

Data Exchange 9.0
- Automatically create and maintain companion database
- Integration with AB Suite
- Containerization of DE Windows component for cloud deployment
- Further integration with SightLine
- Security Enhancements (PQC)

2025

ePortal 12.0
- New HW appliance
- Windows Server 2022
- Visual Studio 2022
- Developer and Runtime updates

1Q 2024

Data Exchange 8.0
- Integration with Azure event Hub
- Veracity of data
- Improved Logging contents
- Database Replication
- Security Enhancements
- DEMS Security Report
- Enhancements to DDW

3Q 2024

ePortal 13.0
- Active Directory Integration
- Agent monitoring flexibility
- Runtime updates
- AWS Support

2025

AB Suite 10.0
- Install and run AB Suite Developer with lower privilege
- .NET Core-based AB Suite client
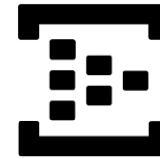- OO Experience – Lists and Arrays Enhancements

2025

Data Exchange 8.0

Data Veracity

Integration with Azure Event Hub
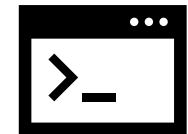
Improved Logging Contents

Database Replication

Enhanced Security

Upgraded DDW

ClearPath Forward ePortal 12.0

- New HW appliance (R660) and Dell Switches
  - Introduction of new powerful HW appliance (R660)
  - New Enterprise Class Dell switches

- Windows Server 2022
  - ePortal HW, ePortal Software Edition and ePortal Azure can operate as expected on WS2022

- Visual Studio 2022
  - ePortal developer tech-ups ; 64-bit Support for ePortal Developer

- Windows 11
  - ePortal Developer 12.0 can be used on Windows 11

- New Runtime Management CLI
  - Manage and automate aspects of ePortal Runtime environment

- Support .NET 6.0
  - ePortal Platform software 12.0 supports the installation of .NET 6.0 packages

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AB Suite 9.0 Release (for MCP and OS 2200)

Low Code Development Enhancements

Enabling Near 24x7 Availability

Security

Client Requests

- Refactoring & Static Code Analysis
  - Detect and Report elements that need to be fixed
  - Correct and fix elements
  - Protect the application
- Debugger Performance Enhancements

- Minimize downtime during Interim Correction (IC) Upgrade for AB Suite MCP

- Secured Connection for AB Suite OS 2200
- Secured FTP for AB Suite OS 2200

- DevOps Enhancements – Merge Utility
- MCP Group Arrays and Class Arrays
- Modelling and Language Improvements - AB Suite OS 2200
- Support for OS 2200 CSS 3.0 on Azure

AB Suite 10.0 Release – Strategic Focus

Low Code Development Enhancements

Client Tools/ User Experience Modernization

REST API Integration and Connectivity

Client Requests / New Feature Suggestions

- Latest version of Visual Studio Qualification
- Install and run AB Suite Developer with lower privilege
- Continue improving Debugger Performance
- OO Experience – Lists and Arrays Enhancements (MCP)

- .NET Core-based AB Suite client

- Outbound REST API (MCP)
- Inbound REST API

- MCP NFS
  - Support singleton DB record access
  - Extend REORGDB management of active AB Suite reports
  - Delayed Deployment
- OS 2200
  - AB Suite OS 2200 Runtime Enhancements
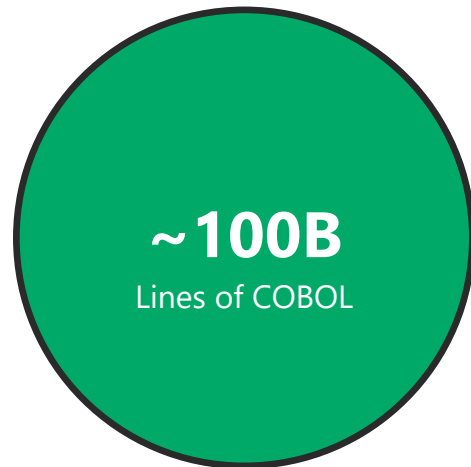 - Increased availability and reduced downtime

ClearPath Forward Application Development

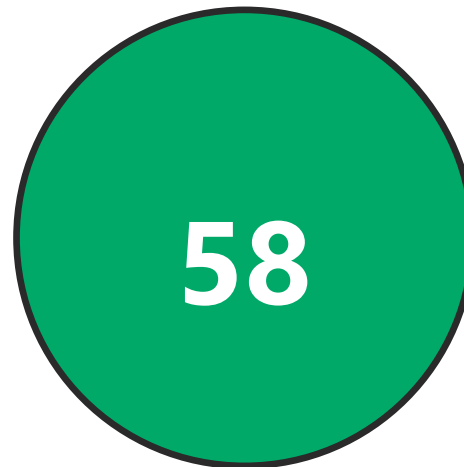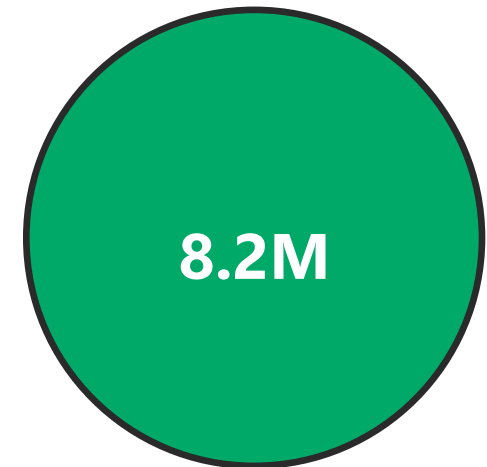**Extend MCP & OS 2200 applications with Python**

04

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Modern Languages

Significant need to bridge the old with the new

~100B
Lines of COBOL

58

8.2M

Drive more than 70% of the global transactions

Average age of a COBOL programmer

Python developers in the world

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Modern Languages

ClearPath Forward®
Server systems and operating system software and services that are secure, innovative, and reliable for mission-critical solutions

Disruptions and challenges our clients face

What we do to support ClearPath Forward® clients

Disruptions and challenges our clients face	What we do to support ClearPath Forward® clients
Erosion of COBOL skills	Provide the ability to utilize Python as a peer to COBOL
Novice to Expert takes too long	Provide infrastructure to enable industry standard, open-source technology
Innovation is hindered by legacy solutions not being written in modern languages	Provide application modernization services utilizing most-modern programming languages (e.g. Python)

Available today for MCP Software Series, Dorado and OS 2200 Software Series

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Unisys ClearPath Forward Services

05

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Enterprise Computing Solutions Services

Enabling Innovation while leveraging Investments

Application Services

EVOLVE

- Application Development & Maintenance
- Application Modernization
- Application Management Services
- Staff Augmentation

Technology Consulting Services

IMPLEMENT

- ClearPath Forward Implementation Services
- Cross Platform Software Services
- Storage Services
- Technology Advisory Services

Infrastructure Managed Services

MANAGE

- Infrastructure Operations Services
- Administration Services
- Infrastructure Advisory Services

Thank You

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