



*“We Help
Put America
Through
School”*

EAI & COD Integration Workshop

November 13, 2001

1:30-4:00 PM

Room 221 BC

Dial-In: (877) 714-4281

Meeting ID: 1275

Agenda



Welcome

COD Overview

EAI Core Services

COD Interfaces

COD Test Phases

Future EAI Services

Closing Comments

Objectives



- Communicate status, development integration and testing schedules
- Promote teaming and knowledge sharing
- Ensure the future success of COD integration testing and deployment by teaming with all system partners

The EAI Architecture accelerates the changes to our Target State Vision.



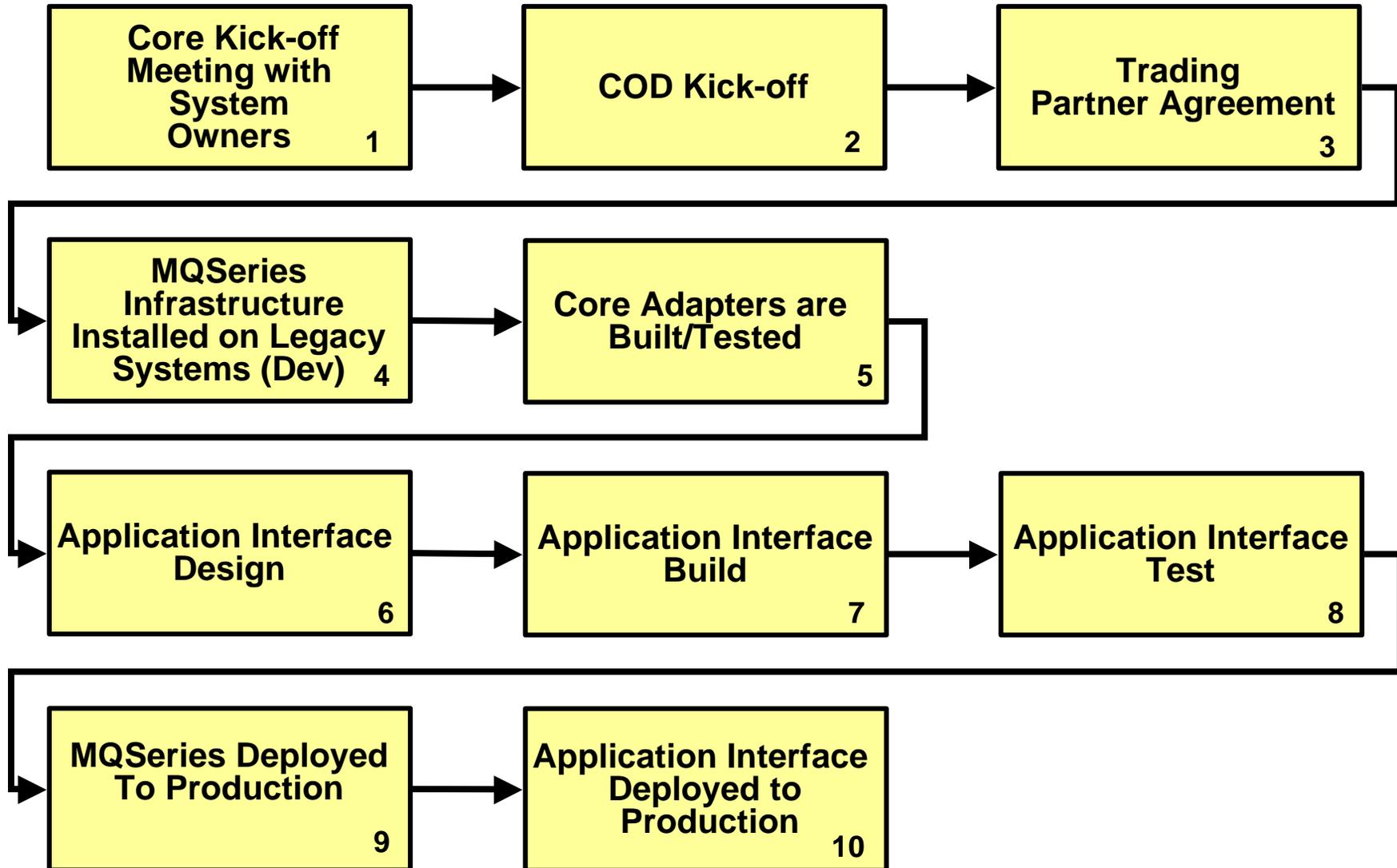
SFA's EAI Middleware Architecture:

- Integrates data and systems
- Supports faster application integration of Modernization solutions
- Improves data integration
- Reduces data redundancy

COD:

Streamlines delivery of financial awards through an integrated set of common processes.

SFA trading partners have been involved in the EAI Core and application integration processes.



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EAI Core Services

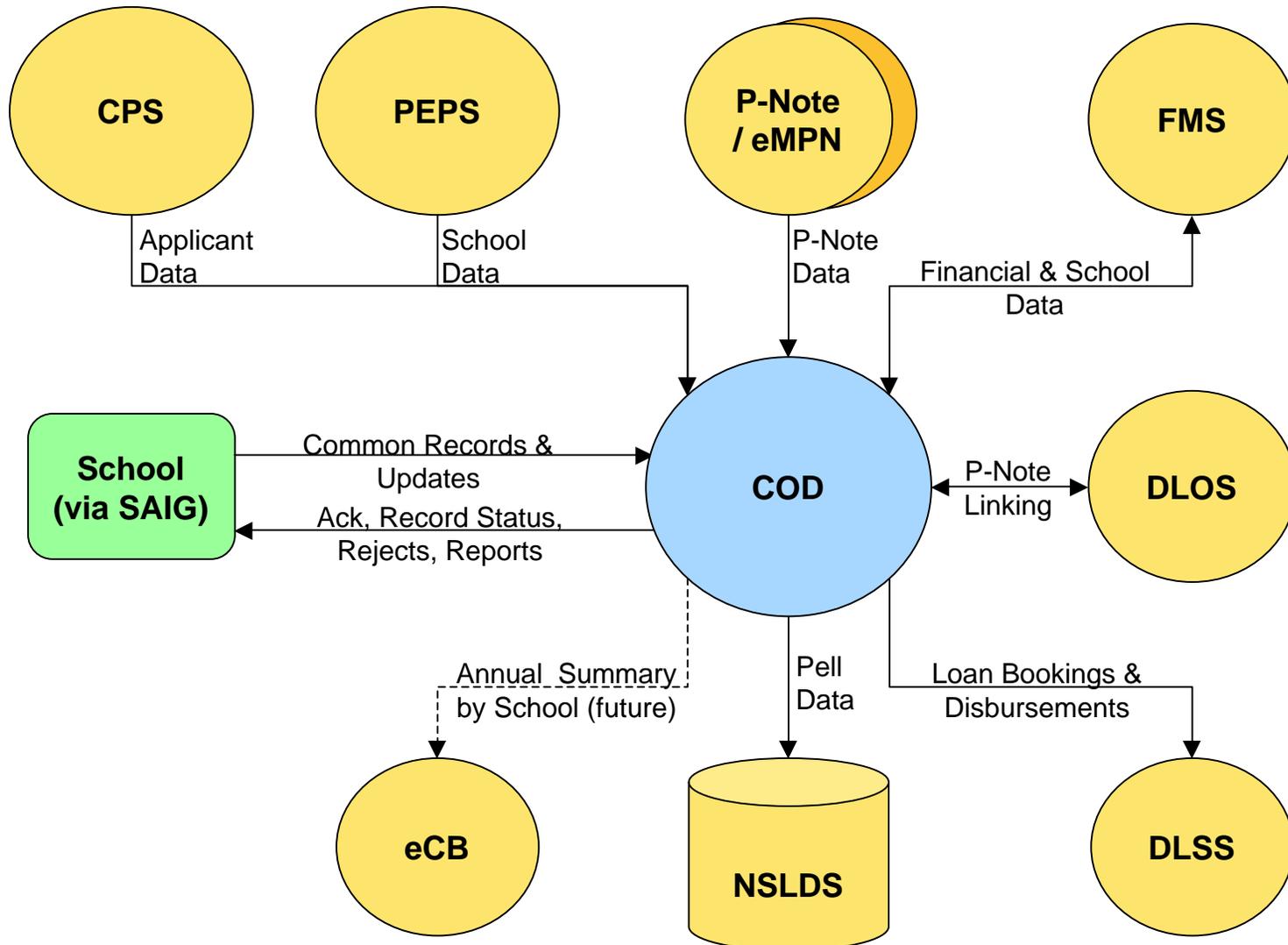
COD Interfaces

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COD interacts with 9 external entities.



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Integration Process

EAI Core Services

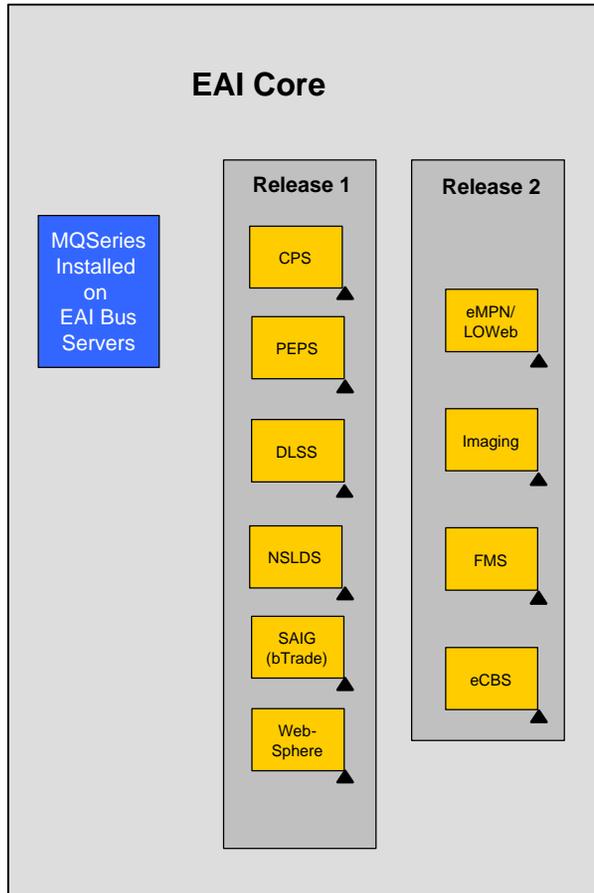
COD Interfaces

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EAI architecture integrates disparate systems and platforms.



OS/390

CPS
NSLDS

HP-UX

SAIG
FMS
eMPN/LOWeb
PEPS
Imaging

Sun Solaris

eCBS
Websphere

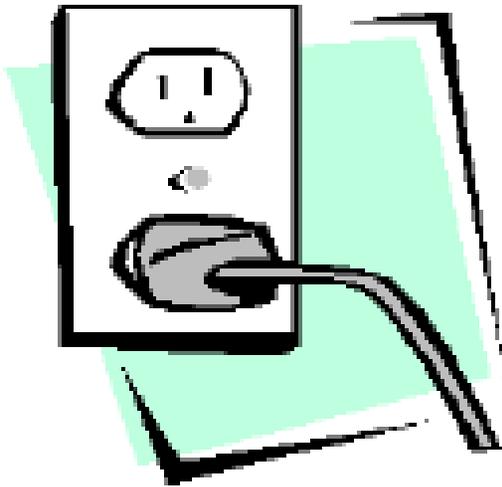
Open VMS

DLSS

The EAI Core Architecture has accomplished the following:

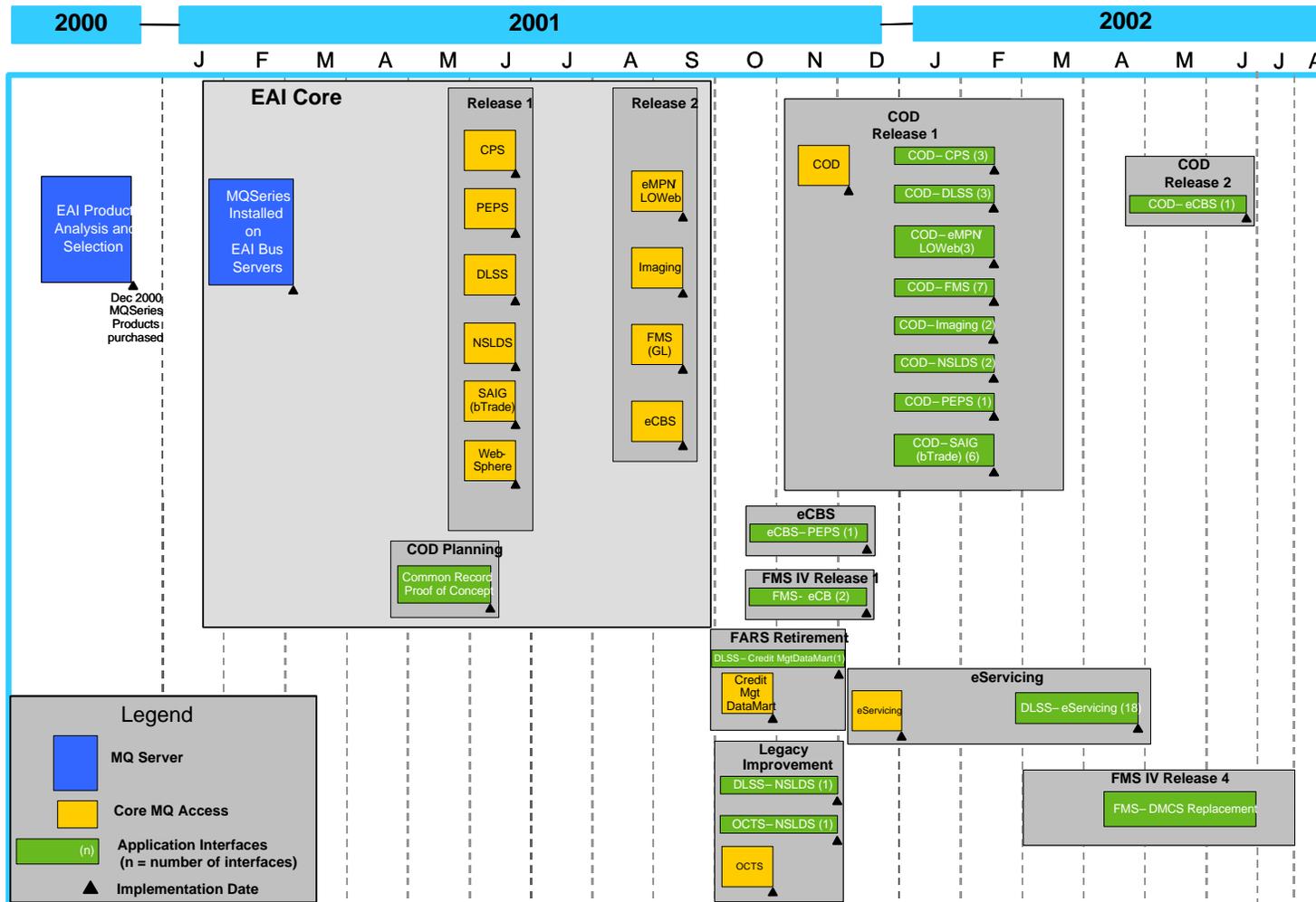
- Implementation of an MQSeries messaging environment for middleware communications.
- Enabled and validated 9 legacy systems and the internet domain with real-time application connectivity.
- Provided transformation services to support XML and legacy formats.

To utilize the services provided by the EAI Core Architecture, application systems will require development of interfaces built upon these services.



- **EAI Architecture provides services to be utilized by application teams.**
- **The EAI Core Architecture implements the EAI products on the legacy system platforms and validates the ability to process legacy system functionality.**
- **Application development teams “plug” into these services and develop application interfaces.**

The EAI Modernization effort is on schedule to provide middleware support for the Modernization applications through 2002.



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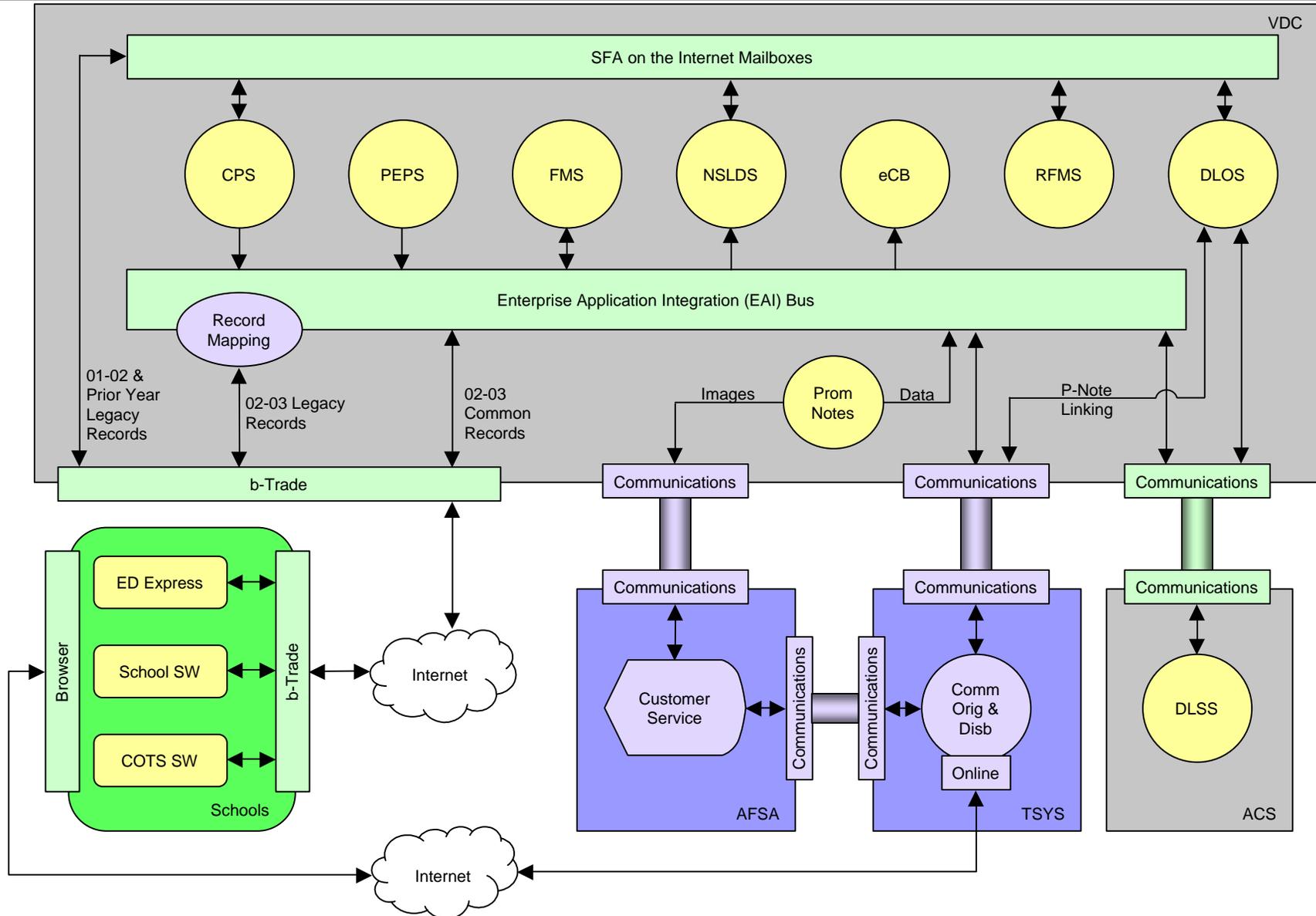
COD Interfaces

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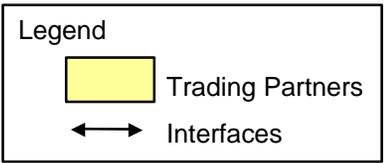
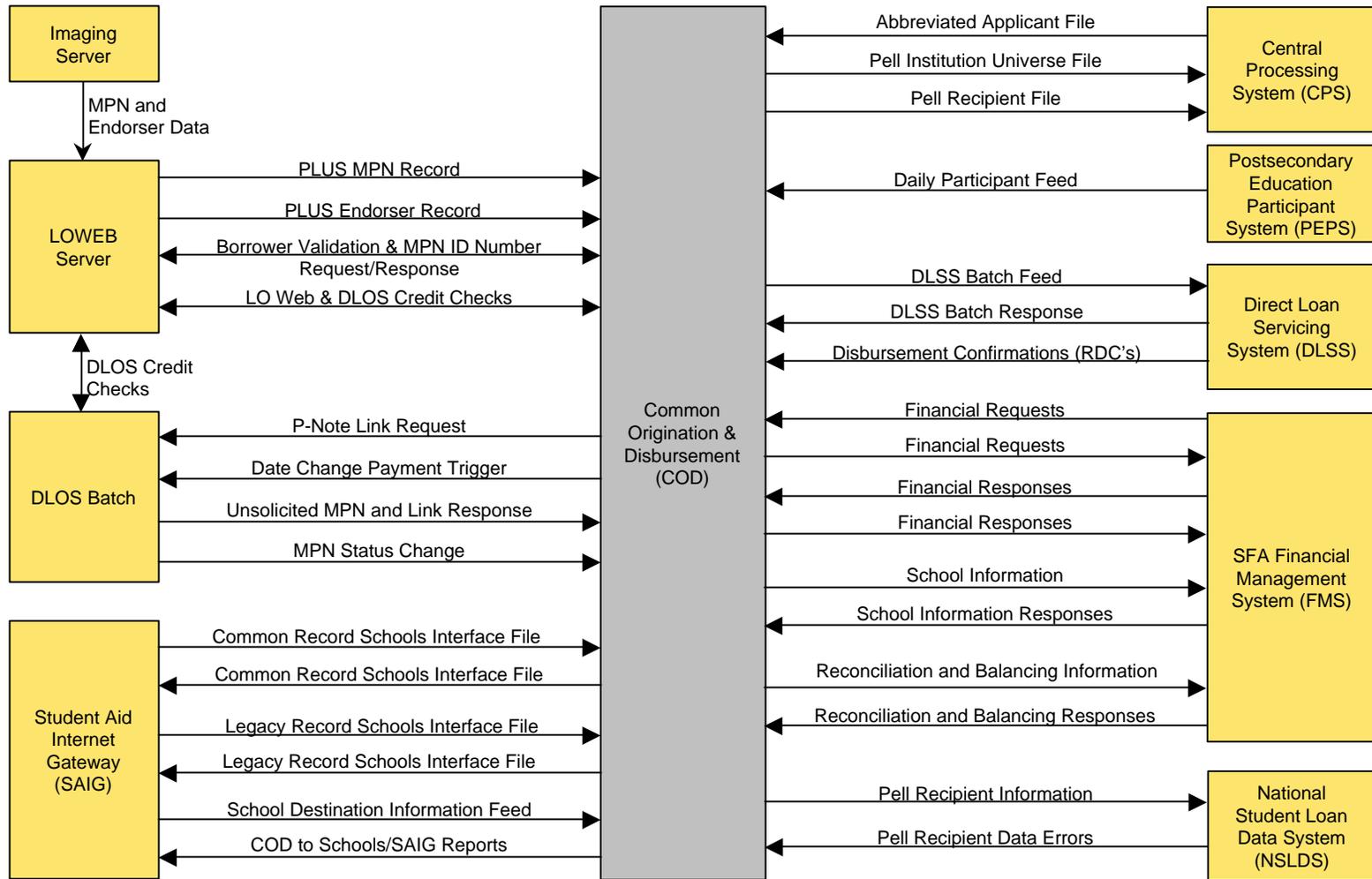
Future EAI Services

Closing Comments

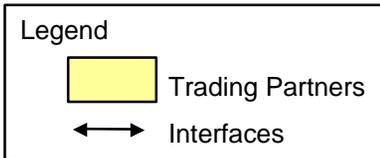
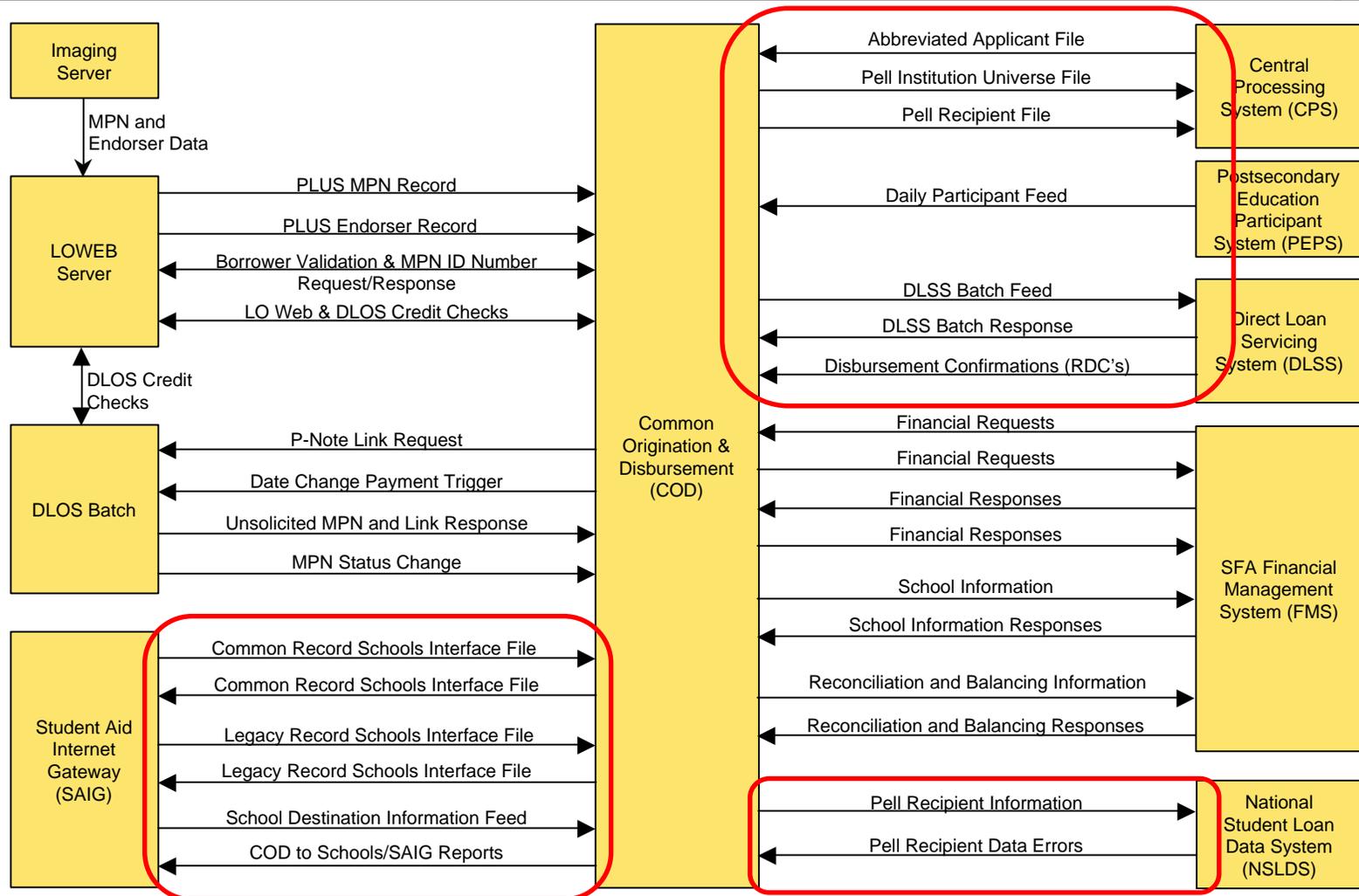
The overall technical architecture for COD will integrate with backend systems, support customer service, and expand SFA's internet capabilities.



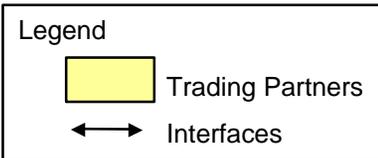
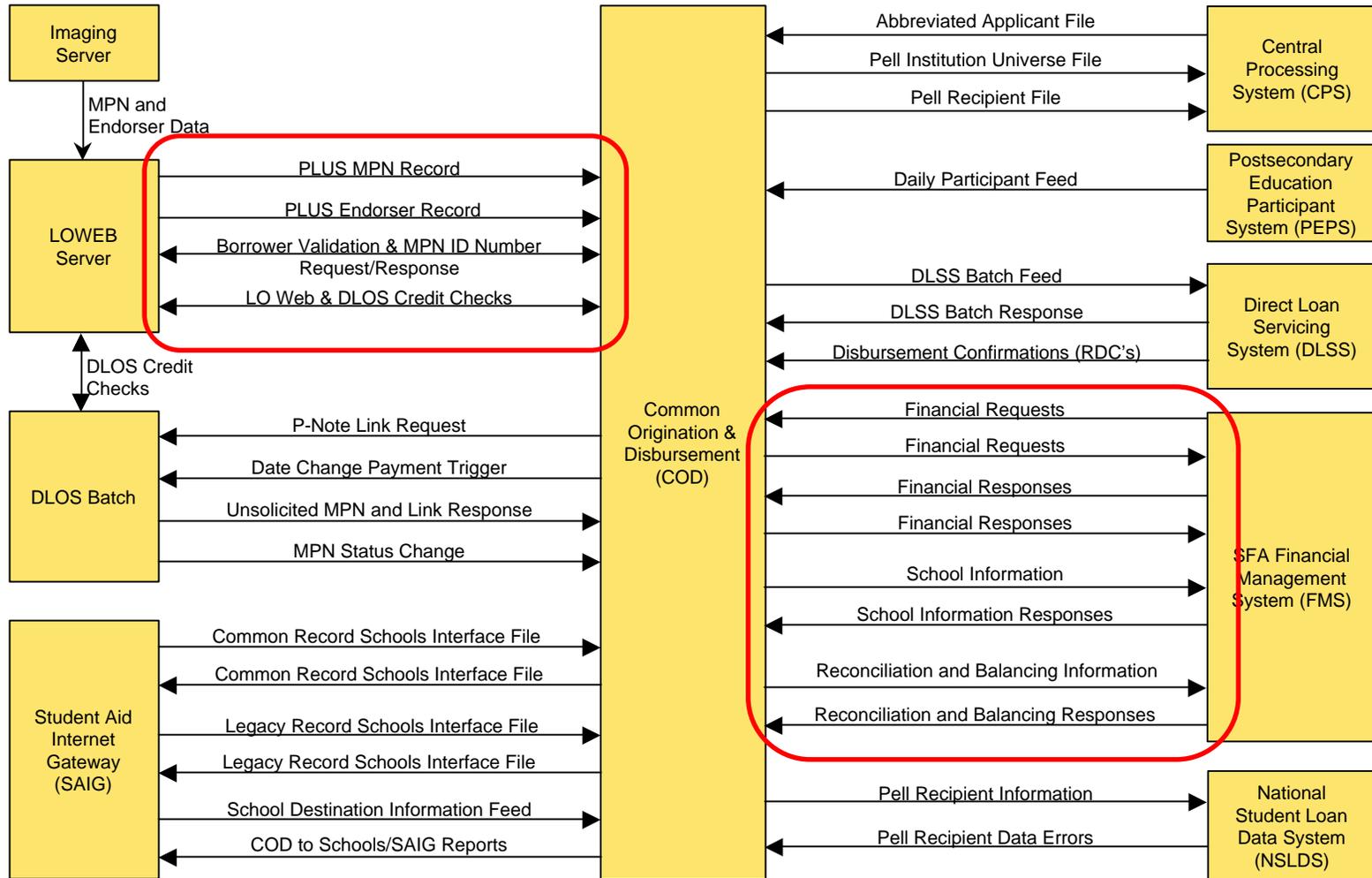
COD is composed of multiple interfaces with SFA's trading partners.



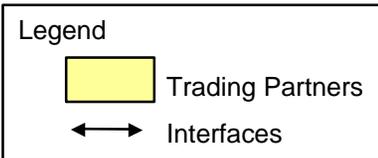
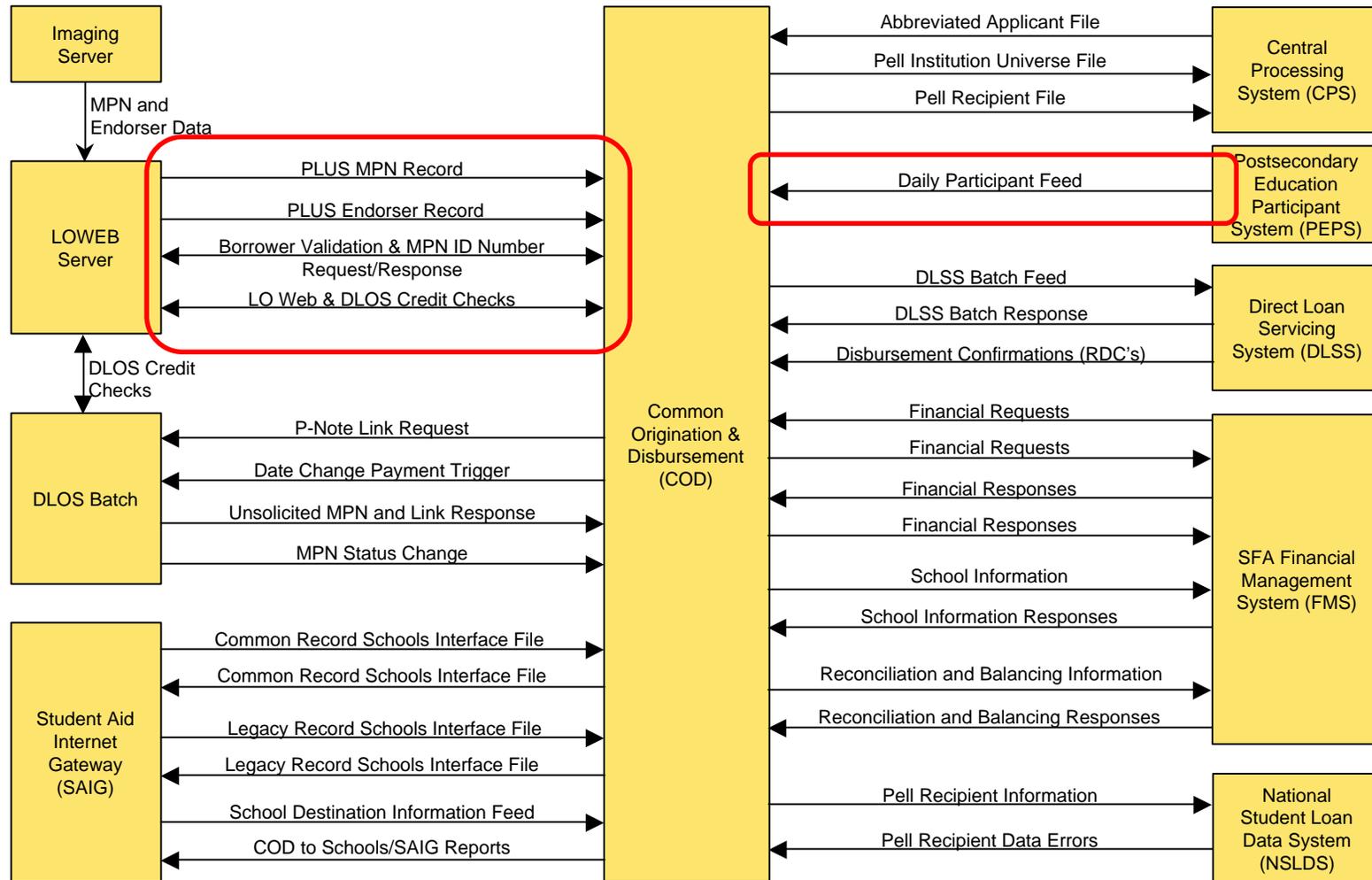
COD application interfaces use the services provided by EAI Core Architecture to transport files between multiple trading partners.



COD application interfaces use the services provided by the EAI Core Architecture to transport data, by way of messages to multiple trading partners.



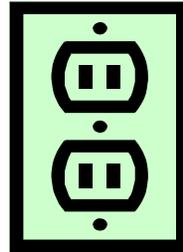
COD application interfaces use the services provided by the EAI Core architecture to transform formats between the application systems.



The COD capability uses the EAI Core architectural services.



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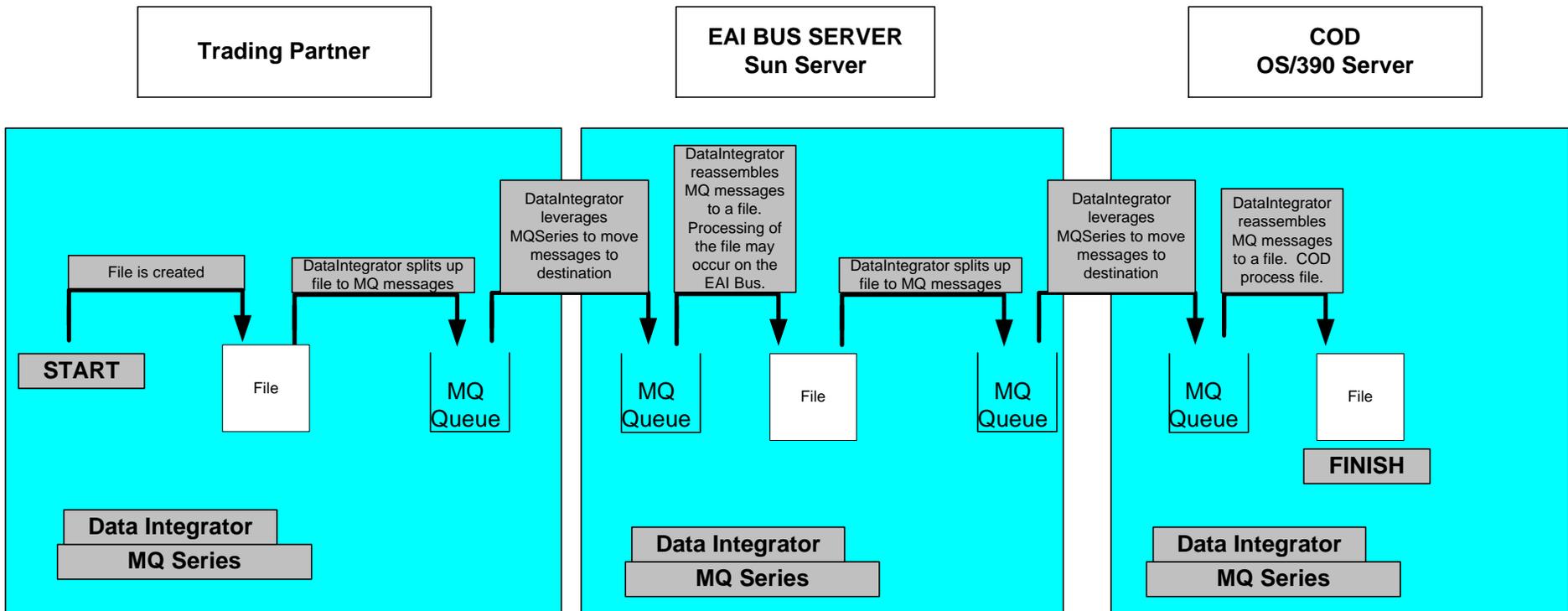


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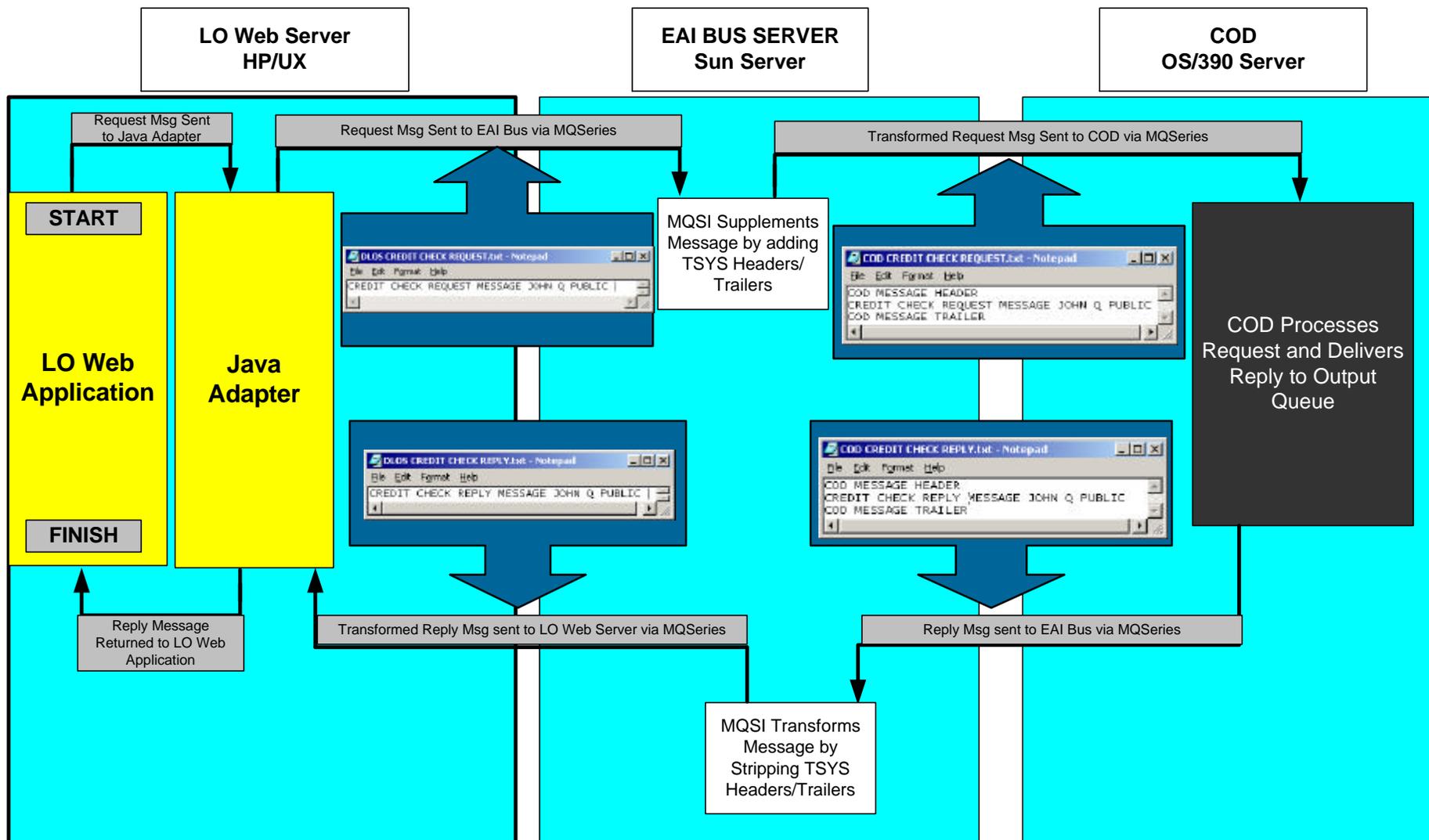


Functionality	Leveraged EAI Core Components	Custom Application Components
<ul style="list-style-type: none"> Receive updated institution records 	<ul style="list-style-type: none"> MQSeries, Data Integrator 	<ul style="list-style-type: none"> Adapter add-on retrieves deltas from PEPS file.
<ul style="list-style-type: none"> Communicate using common record format 	<ul style="list-style-type: none"> MQSeries, Data Integrator Infrastructure Upgrade 	<ul style="list-style-type: none"> Java utility that transforms XML common record format into legacy formats.
<ul style="list-style-type: none"> Submit school data to COD 	<ul style="list-style-type: none"> MQSeries, Data Integrator Release 1.0 Core adapter 	<ul style="list-style-type: none"> Core adapter is customized to retrieve files from mailbox.
<ul style="list-style-type: none"> Submit COD data to schools 	<ul style="list-style-type: none"> MQSeries, Data Integrator Release 1.0 Core adapter 	<ul style="list-style-type: none"> Core adapter is customized to put files in mailbox.
<ul style="list-style-type: none"> Report application status 	<ul style="list-style-type: none"> Common Logging Function 	<ul style="list-style-type: none"> Used in PEPS, FMS, and DLOS (transactional) interfaces.
<ul style="list-style-type: none"> Transport large volumes of data 	<ul style="list-style-type: none"> MQSeries, Data Integrator 	<ul style="list-style-type: none"> Used in PEPS, CPS, NSLDS, DLSS, and SAIG interfaces.
<ul style="list-style-type: none"> Communicate with COD trading partners using different record formats 	<ul style="list-style-type: none"> MQSeries MQSeries Integrator 	<ul style="list-style-type: none"> Used in transactional interfaces with LO and FMS.

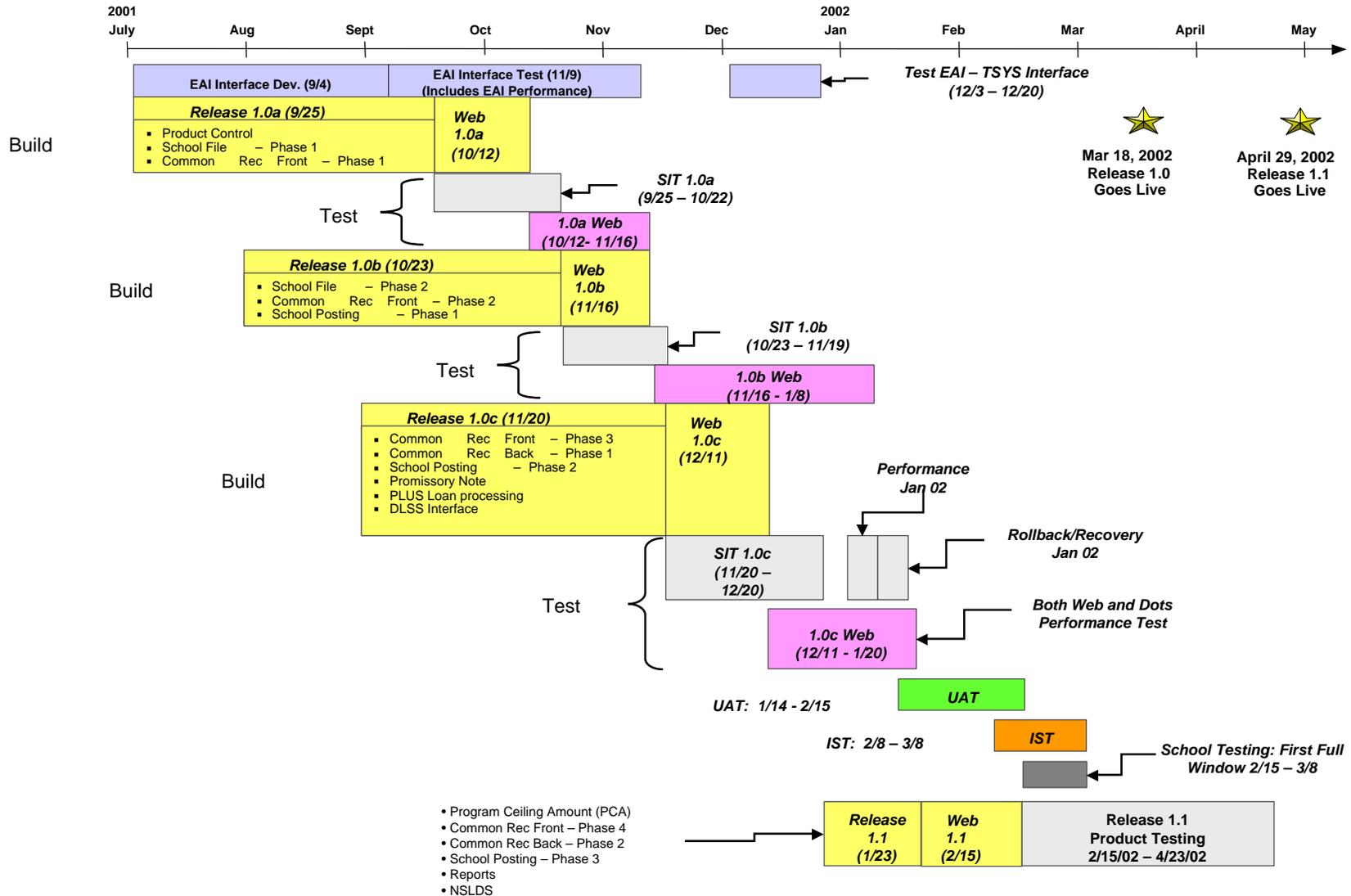
Files are transferred from trading partners to COD through the services offered by the EAI architecture.



Individual transactions are transported and transformed, if necessary, using the services provided by the EAI architecture.



COD release and testing schedules support COD go-live dates in March and April 2002.



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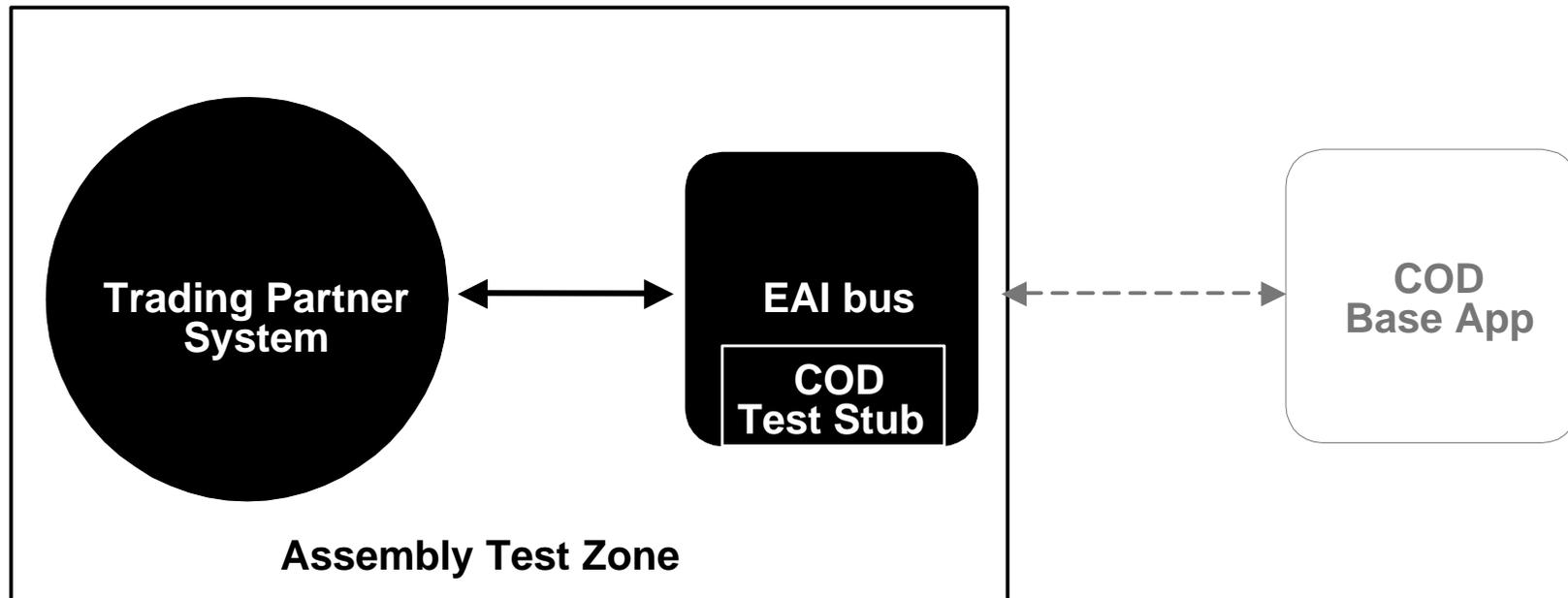
Closing Comments

COD has planned and coordinated test phases with appropriate participants.



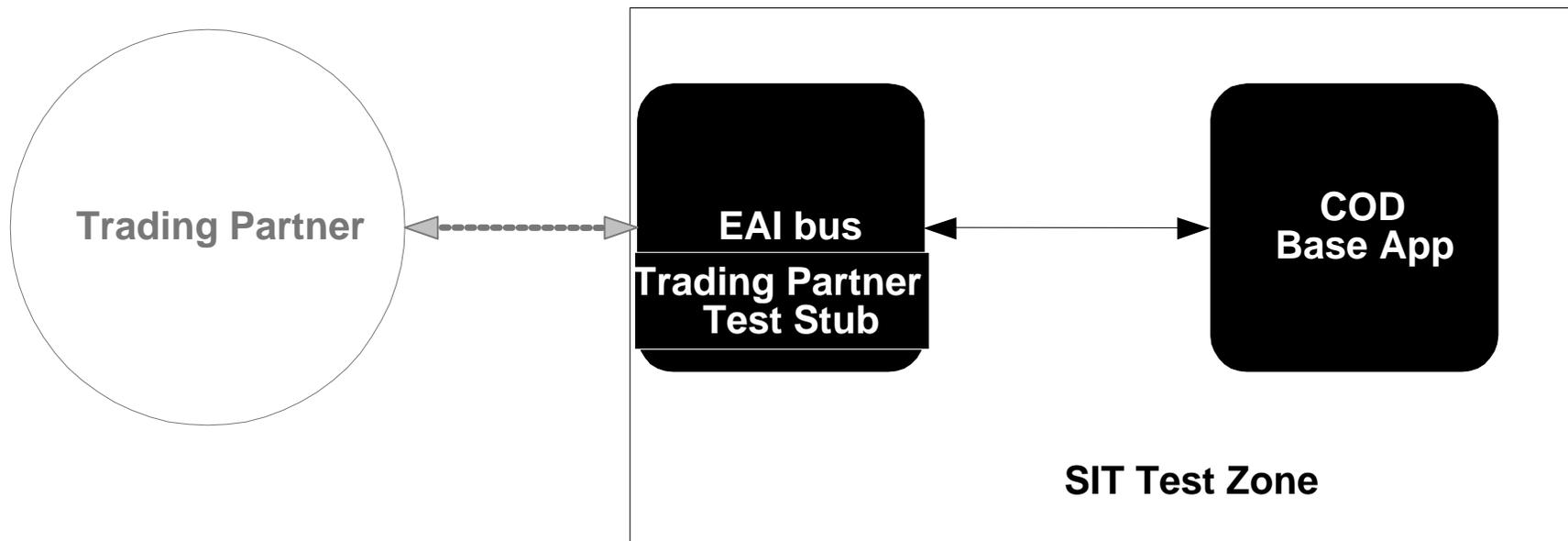
Test Phase	Participants	Schedule
Interfaces Assembly Testing with SFA trading partner systems	EAI Bus and Trading Partner systems	10/12/2001 to 11/9/2001
Interfaces Assembly Testing with COD	EAI Bus and COD System	11/12/2001 to 11/23/2001 12/17/2001 to 12/28/2001
COD System Integration Testing (SIT)	COD System	9/25/2001 to 12/20/2001
COD User Acceptance Testing (UAT)	EAI Bus and COD System	1/14/2002 to 2/15/2002
COD Interfaces Communications Testing (e.g. LOWeb credit check, DLSS, etc.)	EAI Bus, Trading Partner systems, and COD System	1/30/2002 to 2/6/2002
COD Inter-Systems Testing (IST)	EAI Bus, Trading Partner systems, and COD System	2/8/2002 to 3/8/2002
COD Schools Testing	Schools, SAIG, EAI Bus, and COD System	2/15/2002 to 3/8/2002
COD R1.0 GO LIVE!	All	3/18/2002

Assembly Testing validates interfaces between the EAI bus and trading partner systems.



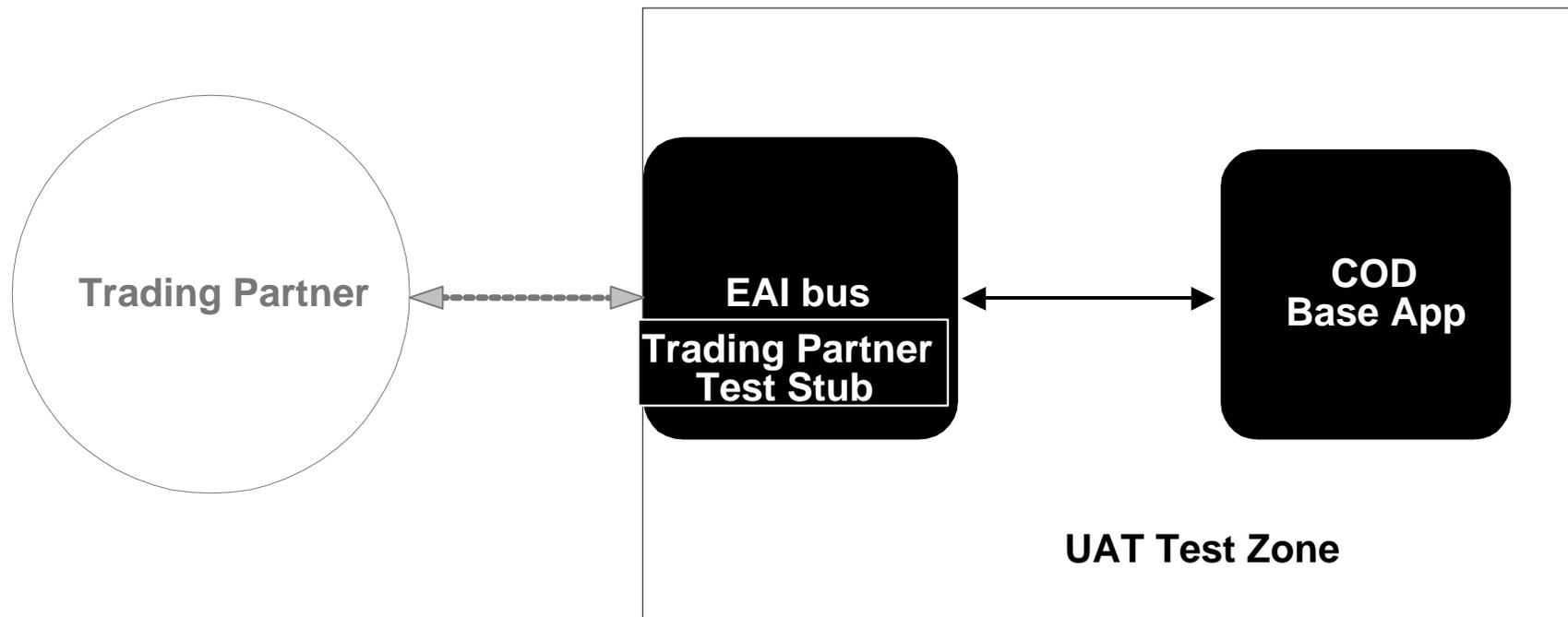
- Ensures components interact successfully with each other.
- Ensures applications are triggered appropriately on the EAI Bus and trading partner systems.
- Ensures file naming conventions are met.
- Ensures MQSeries configurations work properly.
- Isolates and localizes any problems before progressing to the next phase of testing.

Systems Integration Testing validates interfaces between EAI Bus and COD.



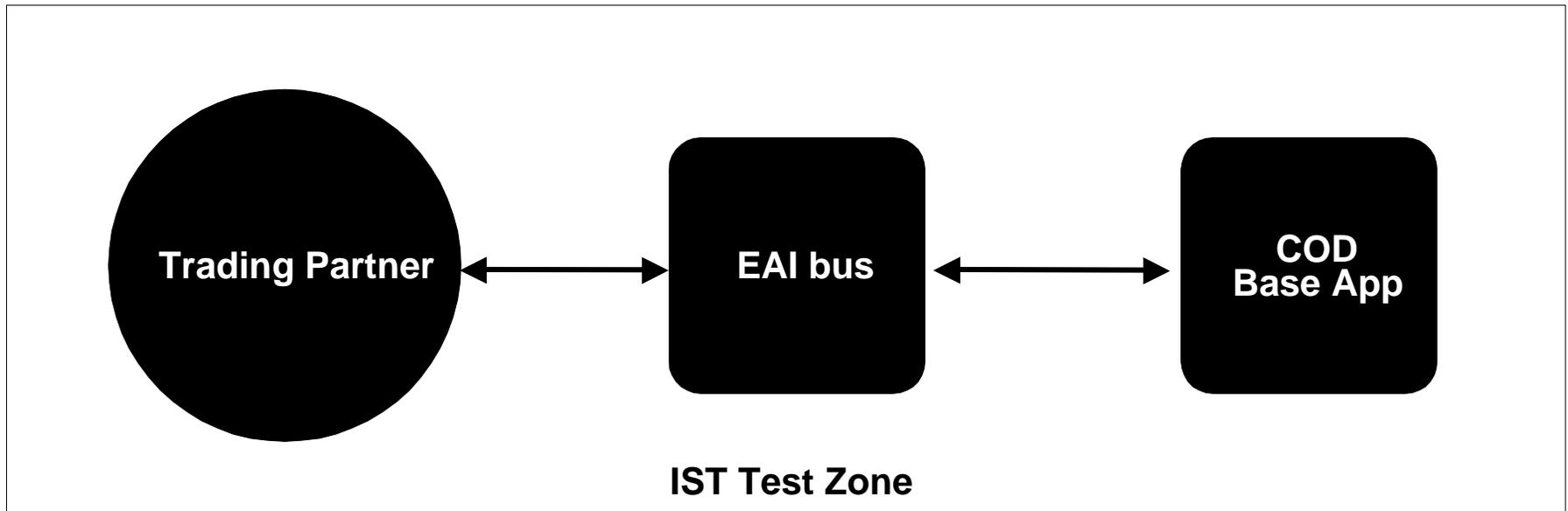
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- Ensures applications are triggered appropriately on the EAI Bus and COD.
- Ensures file naming conventions are met.
- Ensures MQ configurations work properly.
- Isolates and localizes any problems before progressing to the next phase of testing.

User Acceptance Testing validates functional requirements of COD.



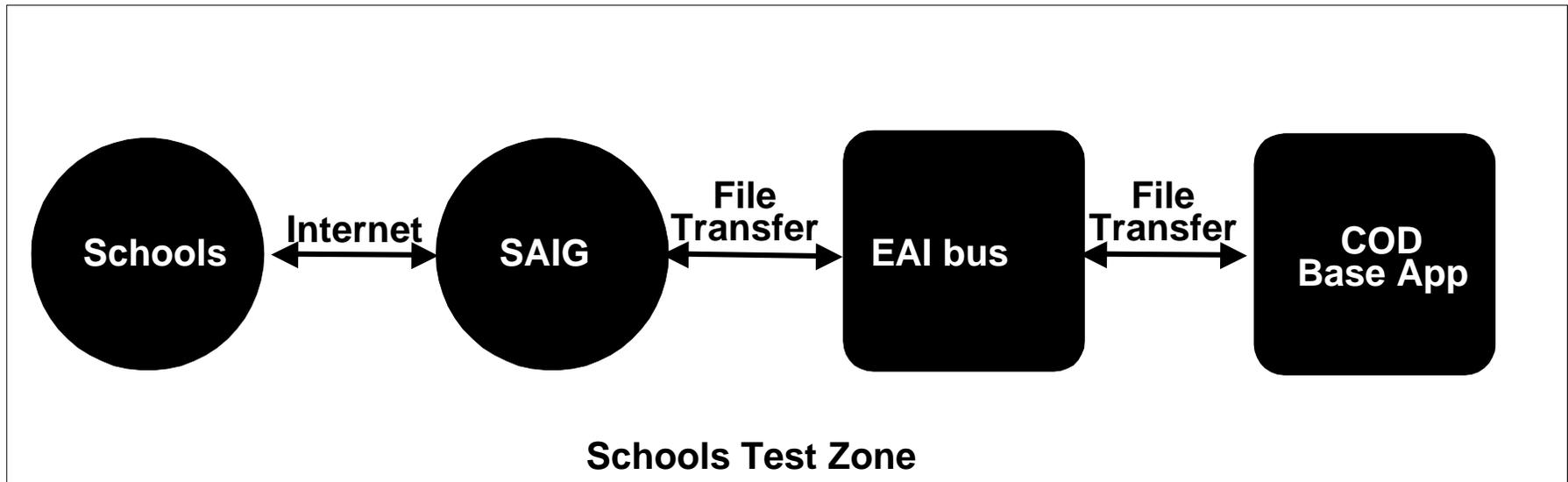
Ensures functional requirements of interfaces are met.

Inter-Systems Testing provides end-to-end verification throughout the enterprise.



Ensures all custom COD EAI Interface components work properly in the IST environment.

Schools Testing allows schools and servicers to validate their end-to-end interfaces.



- Confirms that common record and legacy files from schools are properly transformed and delivered to COD.
- Confirm that common record and legacy files from COD are properly transformed and delivered to schools.
- Isolates any and all problems before migrating to production.



COD Interfaces Build and Testing Status

Interface	Build	Unit Test	Assembly Test
P-Note/eMPN	100%	100%	100%
CPS	100%	100%	100%
PEPS	100%	100%	100%
FMS	0%	0%	0%
NSLDS	100%	100%	100%
DLSS	100%	100%	100%
SAIG	85%	50%	100%

eCB will be implemented at a later date.
DLOS is a temporary FTP Interface

COD Process



#	Steps	DLSS	CPS	NSLDS	SAIG	PEPS	FMS	eCB	eMPN/LO Web	P-Note
1	Core Kick-off Meeting (with legacy system owners)	X	X	X	X	X	X	X	X	X
2	COD Kickoff	X	X	X	X	X	X	X	X	X
3	Trading Partner Agreement	-	X	X	X	X	-	-	X	X
4	MQ Series Infrastructure is Installed (Dev)									
	MQ Series	X	X	X	X	X	X	X	X	X
	Data Integrator	X	X	X	X	X	X	-	-	-
	MQMON	-	-	-	-	-	-	-	-	-
5	Core Adapters are Built/Tested	X	X	X	X	X	X	X	X	X
6	Application Interface Design	X	X	X	X	X	X	X	X	X
7	Application Interface Build	X	X	X	X	X	X	-	-	-
8	Application Interface Test									
9	MQSeries is Deployed to Production	X	X	X	X	X	X	X	-	X
	MQ Series									
	Data Integrator	-	X	X	-	-	-	-	-	-
	MQMON	-	-	-	-	-	-	-	-	-
10	Application Interface Deployed to Production	-	-	-	-	-	-	-	-	-

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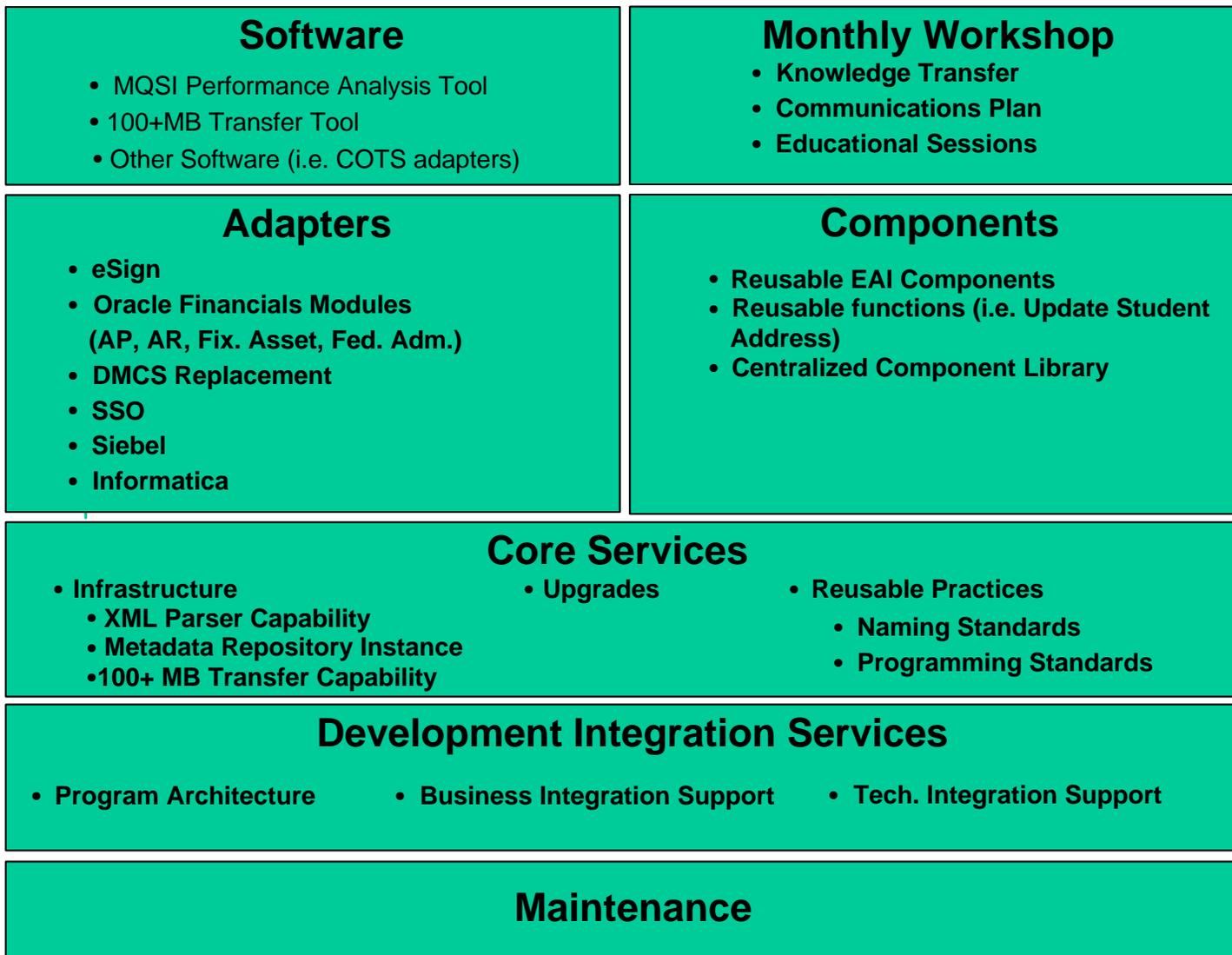
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Future EAI Services

Closing Comments

Future services provided by the EAI Core Architecture include new tools and services to enhance the architecture and capabilities to sustain it.



Additional software will be procured and implemented to enhance the services of the EAI Core Architecture.



<p style="text-align: center;">Software</p> <ul style="list-style-type: none"> • MQSI Performance Analysis Tool • 100+MB Transfer Tool • Other Software (i.e. COTS adapters) 	<p style="text-align: center;">Monthly Workshop</p> <ul style="list-style-type: none"> • Knowledge Transfer • Communications Plan • Educational Sessions
<p style="text-align: center;">Adapters</p> <ul style="list-style-type: none"> • eSign • Oracle Financials Modules (AP, AR, Fix. Asset, Fed. Adm.) • DMCS Replacement • SSO • Siebel • Informatica 	<p style="text-align: center;">Components</p> <ul style="list-style-type: none"> • Reusable EAI Components • Reusable functions (i.e. Update Student Address) • Centralized Component Library
<p style="text-align: center;">Core Services</p> <ul style="list-style-type: none"> • Infrastructure <ul style="list-style-type: none"> • XML Parser Capability • Metadata Repository Instance • 100+ MB Transfer Capability • Upgrades • Reusable Practices <ul style="list-style-type: none"> • Naming Standards • Programming Standards 	
<p style="text-align: center;">Development Integration Services</p> <ul style="list-style-type: none"> • Program Architecture • Business Integration Support • Tech. Integration Support 	
<p style="text-align: center;">Maintenance</p>	

Software

- The MQSI Performance Analysis tool, Transaction Vision, will report flow information and data about a transaction enabling performance to be analyzed and addressed prior to production deployment.
- The 100+ MB transfer tool, Data Integrator, is a plug-in to MQSeries that supports the transportation of large data streams. This capability will decrease the complexity of coding required when only using MQSeries.
- COTS adapters provide application connectivity to additional SFA systems.

Monthly workshops will be provided to enhance communication with SFA operating partners and key stakeholders.

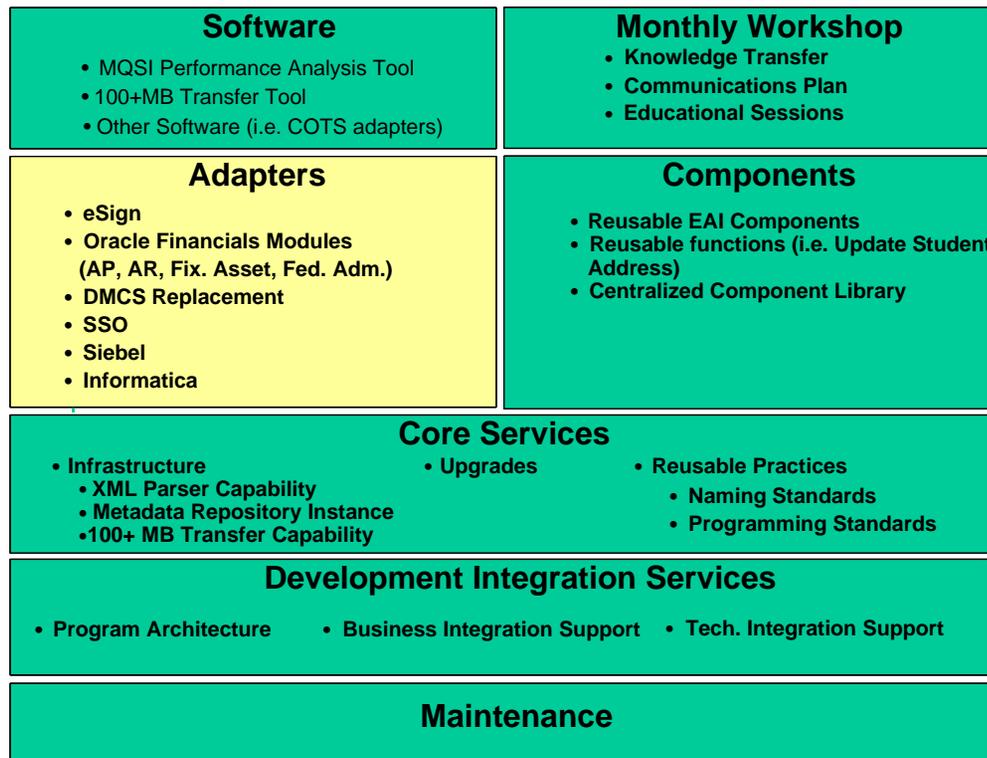


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<p style="text-align: center;">Core Services</p> <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 33%;"> <ul style="list-style-type: none"> • Infrastructure • XML Parser Capability • Metadata Repository Instance • 100+ MB Transfer Capability </td> <td style="vertical-align: top; width: 33%;"> <ul style="list-style-type: none"> • Upgrades </td> <td style="vertical-align: top; width: 33%;"> <ul style="list-style-type: none"> • Reusable Practices • Naming Standards • Programming Standards </td> </tr> </table>		<ul style="list-style-type: none"> • Infrastructure • XML Parser Capability • Metadata Repository Instance • 100+ MB Transfer Capability 	<ul style="list-style-type: none"> • Upgrades 	<ul style="list-style-type: none"> • Reusable Practices • Naming Standards • Programming Standards
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<p style="text-align: center;">Development Integration Services</p> <ul style="list-style-type: none"> • Program Architecture • Business Integration Support • Tech. Integration Support 				
<p style="text-align: center;">Maintenance</p>				

Monthly Workshop

- Educational sessions and knowledge transfer will discuss how services of EAI architecture meet requirements of SFA priorities.
- Communications planning will provide legacy system integration planning and release planning for application integration.
- Knowledge transfer sessions will also be conducted to ensure the EAI services and components are understood and incorporated into applications.

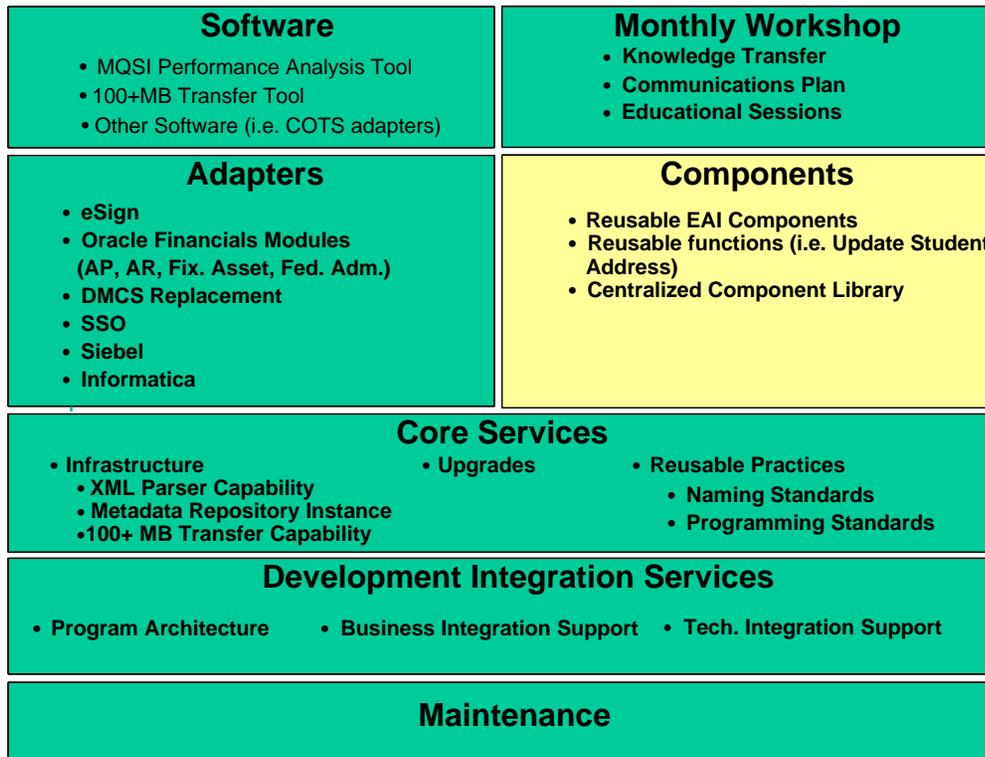
New adapters will be built for additional SFA systems that have enterprise applications and data.



Adapters

- Implement and validate real-time connectivity to additional systems.
- The adapters will be reusable to support application interfaces.
- Application teams benefit by leveraging previous designs and implementations that have been validated.

EAI components will be designed and implemented by an enterprise team to achieve maximum application reusability.



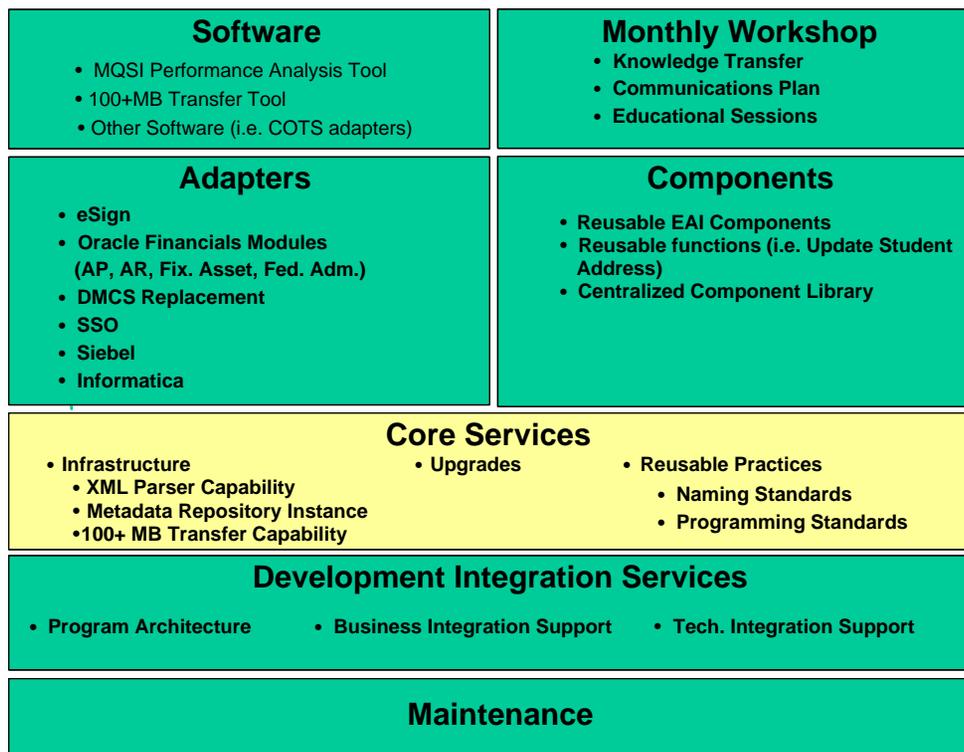
Components

- Reusable EAI components and functions will provide capabilities for application teams.
- The reusable functions will provide enterprise capabilities that support data accuracy and data consistency across the enterprise.
- The technical teams will support the technical build of reusable EAI components such as XML formats.

Core services will implement the services provided by new and upgraded products, as well as publish guidelines for using the services.



Core Services



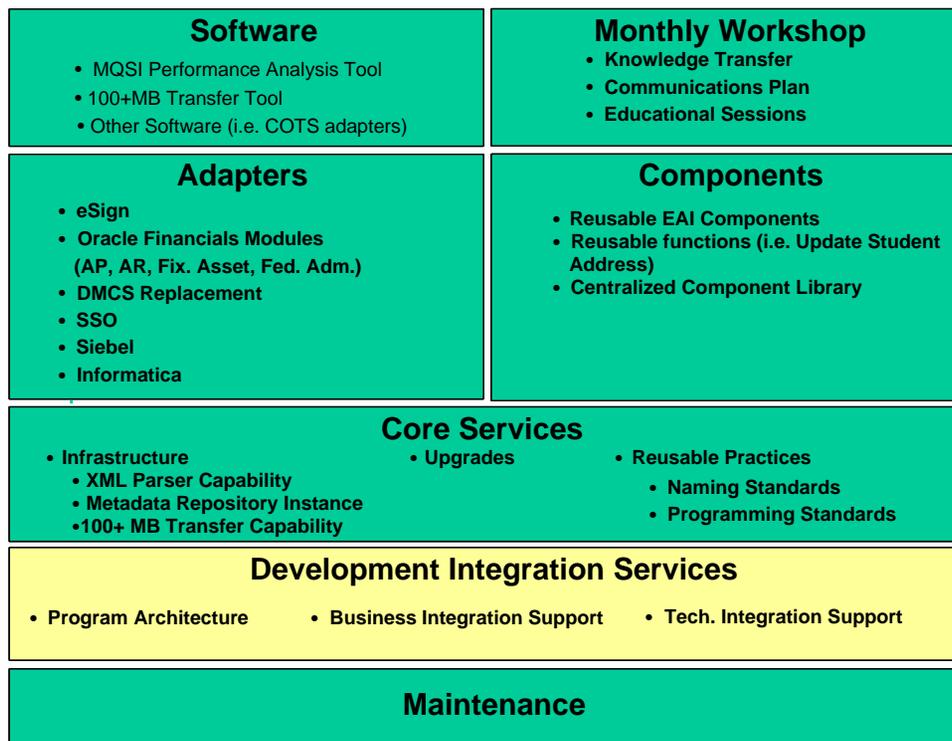
- The Infrastructure of the EAI Architecture will be enhanced with the implementation and validation of additional products, such as an Oracle database for application metadata.
- Upgrades of the EAI infrastructure and operating systems will be performed to continue vendor support and to obtain enhancements provided by new releases.
- Reusable practices will be updated to provide application teams with a guide for using the services provided by the EAI architecture.

Development Integration Services will assist application teams in determining how to utilize the capabilities provided by the EAI architecture.



Development Integration Services

- Program Architecture services will recommend the EAI strategy for the Modernization program, defining the timeline to make application capabilities real-time, thus enabling SFA to realize the full benefits of the Modernization architecture.
- Business and Technical Integration Support will assist application teams in designing their application interfaces with the reusable EAI components and services.

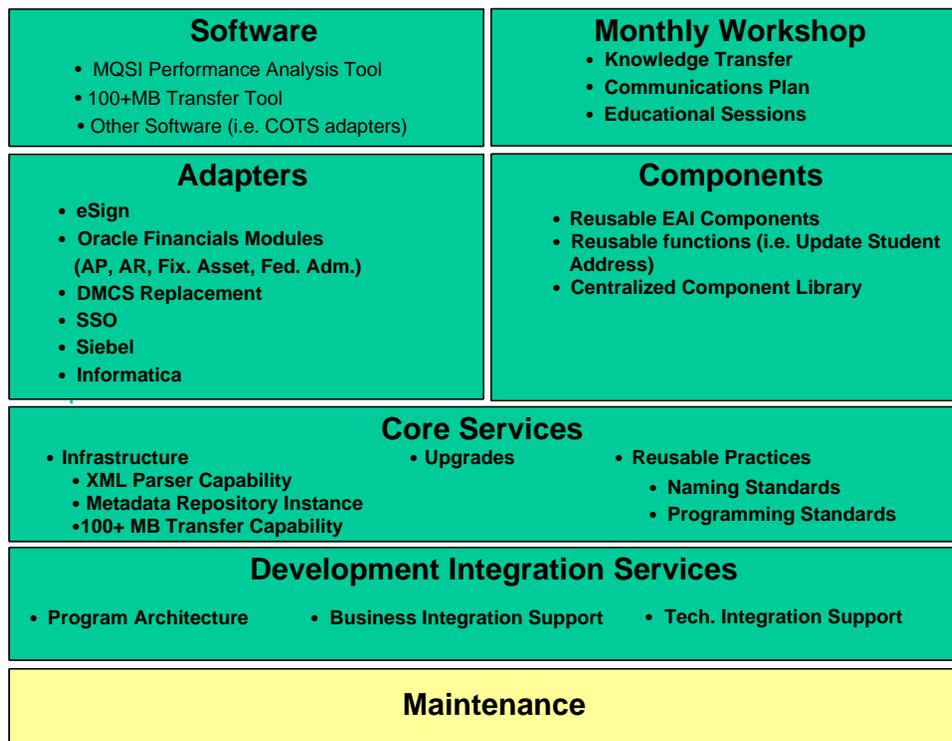


The EAI core architecture team will be a high-performance team, maintaining the EAI architecture, as well as implementing future enhancements.



Maintenance

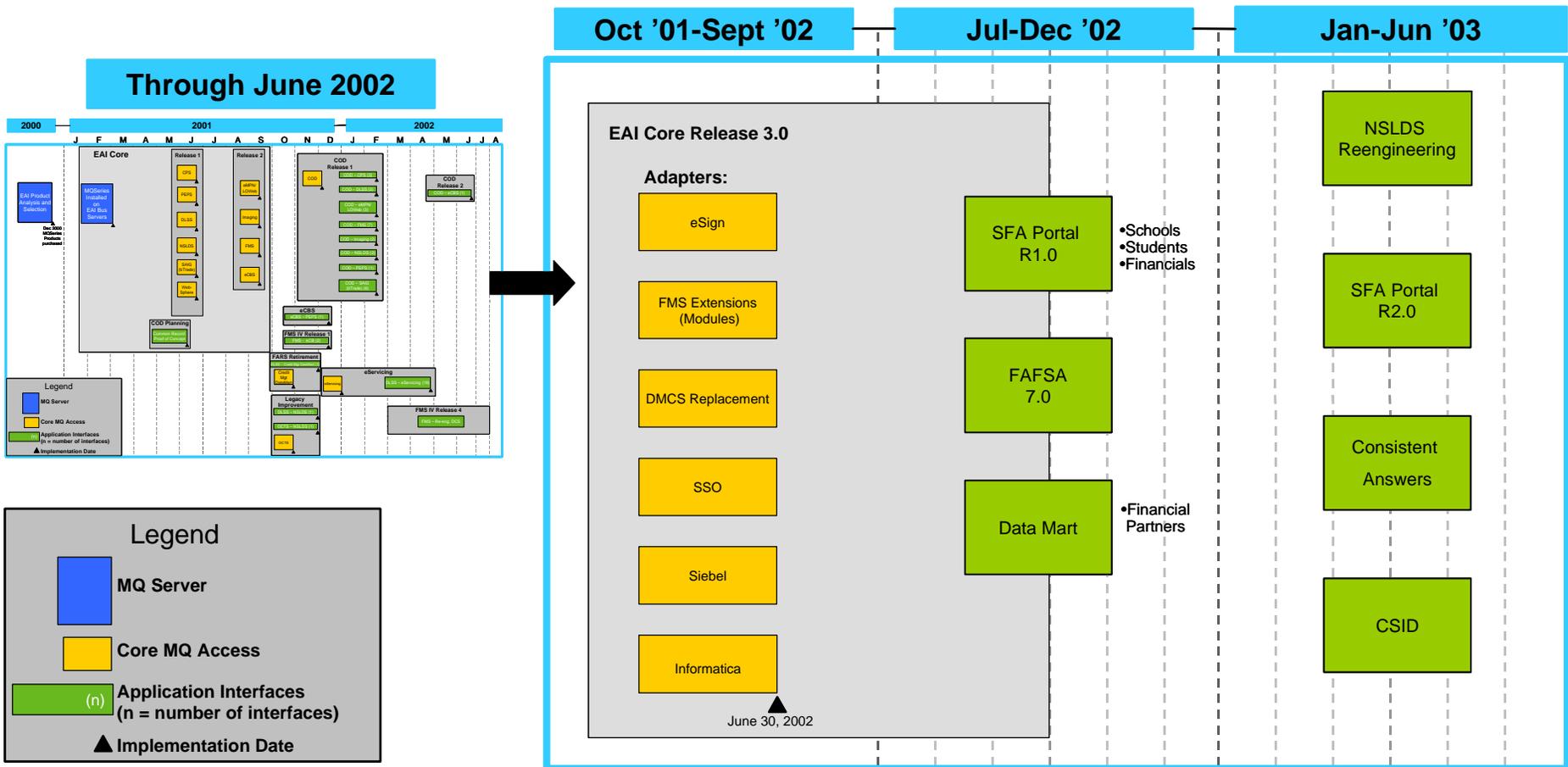
- The Maintenance task will provide EAI product support for applications that are in production.
- Maintenance will be performed, in accordance with the VDC and Modernization Partner “Maintenance Roles and Responsibilities” agreement, to ensure reliable application operation.



EAI Modernization Integration Management Plan (Through 2003)



As new applications are built, adapters will have to be created to connect the systems to the EAI Bus. Integration services will be required to support Modernization application development teams in using the adapters.



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Next Monthly Workshop...



What does it take to use EAI?

To find out please join us on...

- December 13, 2001
- 9:30-12:00 PM
- Room 221 ABC