



Enterprise Application Integration Details

December 18, 2000



FY01 Enterprise Application Integration - EAI Cost Breakdown

	(\$M)		
	Core Services (Foundation)	Core Software (Foundation)	EITM Requested Funding
EAI	\$ 2.20	\$ 1.05	\$ 3.25

FY01 EAI Cost are composed of the Following:

- \$2.20M for Installation, Configuration, Integration, and Customization of MQ Series, and MQ Series Integrator. MQ adapters installed, and configured to connect 11 SFA legacy systems. MQ enabled and ready to support application messages
- \$1.05M for software licenses

Two instances of MQ-Series Integrator Software	Estimated at \$400K per instance (purchase)	\$ 800,000
Five Instances of MQ-Series Messaging Software	Estimated at \$50K per instance (annual lease)	\$ 250,000



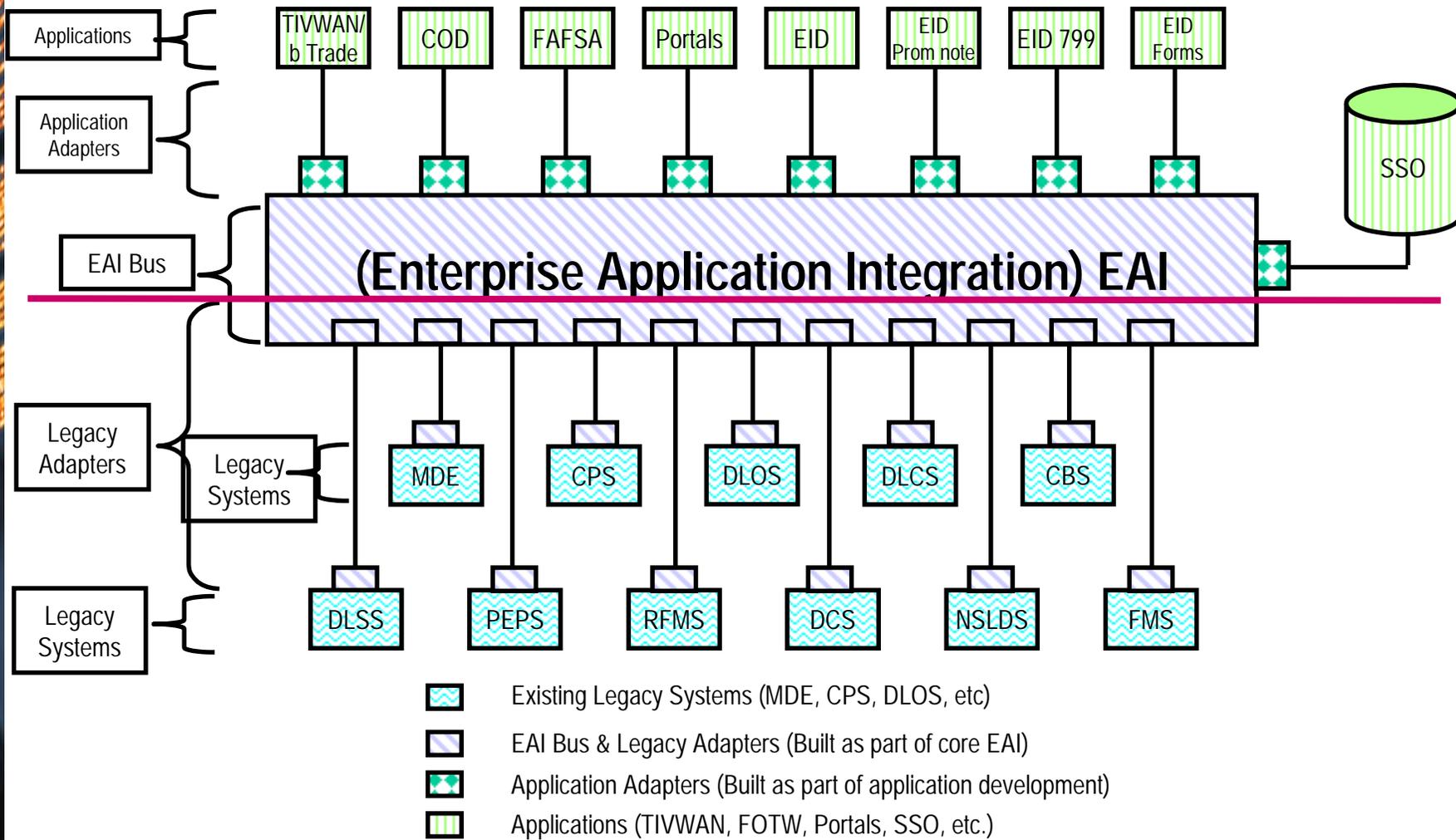
FY01 Enterprise Application Integration - Victory List Initiatives Schedule

To support SFA's documented business objectives in FY01, the EAI deployment team will utilize the following schedule to prioritize the migration of Legacy systems to the EAI Middleware Architecture.

	Development	Test	Production	Impacted Systems
FAFSA	Jan / Feb 2001	June 1, 2001	August 1, 2001	CPS
COD	April 1, 2001	September 1, 2001	February 1, 2002	RFMS, DLOS, CPS
TIVWAN/ b Trade	March 1, 2001	June 1, 2001	October 1, 2001	DLOS, DLCS, DLSS, PEPS, RFMS,DCS, NSLDS
FMS	April 1, 2001	July 1, 2001	November 1, 2001	DLOS, DLSS, DLCS, COD, DCS, NSLDS
DL e-Serv.	May 1, 2001	September 1, 2001	November 1, 2001	DLSS, DLOS, DLCS, NSLDS
FP. Data Mart	March 1, 2001	May 1, 2001	July 1, 2001	FFEL, NSLDS, PEPS, FMS
Ombudsman				NSLDS
Portals				



FY01 Enterprise Application Integration - Graphical representation of EAI Core, Modernization Applications, Legacy Systems and Application Adapters





FY01 Enterprise Application Integration SFA Benefits -

Reduced integration cost with backend [legacy] systems

Without EAI	MDE	CPS	DLOS	DLCS	CBS	DLSS	PEPS	RFMS	DCS	NSLDS	FMS	Total
TIVWAN (bTrade)			√	√		√	√	√	√	√		7
COD			√		√			√				3
FAFSA		√										1
EID		√	√			√			√			4
Portals			√	√		√		√	√	√		6
EID (Prom. Note)		√	√			√						3
EID 799		√									√	2
EID Forms 2000		√									√	2
SSO	√	√	√	√	√	√	√	√	√	√	√	11

**Total Number of
Interfaces w/o EAI 39**

With EAI	MDE	CPS	DLOS	DLCS	CBS	DLSS	PEPS	RFMS	DCS	NSLDS	FMS	Total
EAI Bus	√	√	√	√	√	√	√	√	√	√	√	11

**Total Number of
Interfaces with EAI 11**



FY01 Enterprise Application Integration SFA Benefits -

Enable application or technology changes to occur transparent to the user

EAI will allow SFA to integrate new net-centric applications with existing back-end systems, while at the same time, providing a means to migrate away from reliance upon legacy systems. EAI services enable the integration of disparate system processes and data.

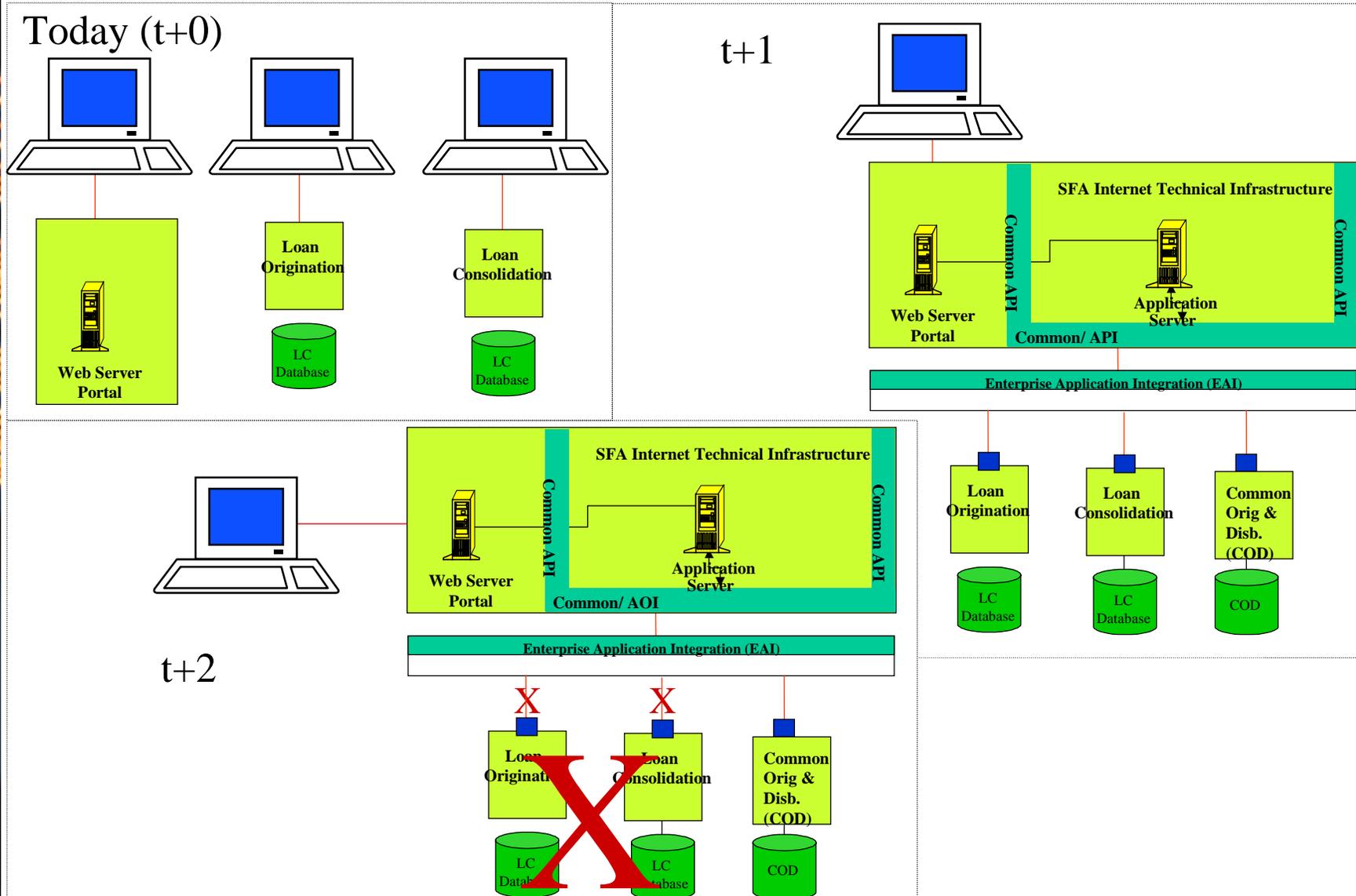
There are two components of “transparent change” in the EAI architecture:

- **Short Term – It enables SFA to consolidate and retire systems while presenting a common interface to the external user community, without service interruption.**
- **Long Term – Capability to support online / near online transaction processing with the intention of reducing inherent latency in traditional batch systems, and reducing data errors caused by the latency of batch processes or the inability to share data updates between systems.**



SFA Benefits - Enterprise Application Integration

Enable application or technology changes to occur transparent to the user

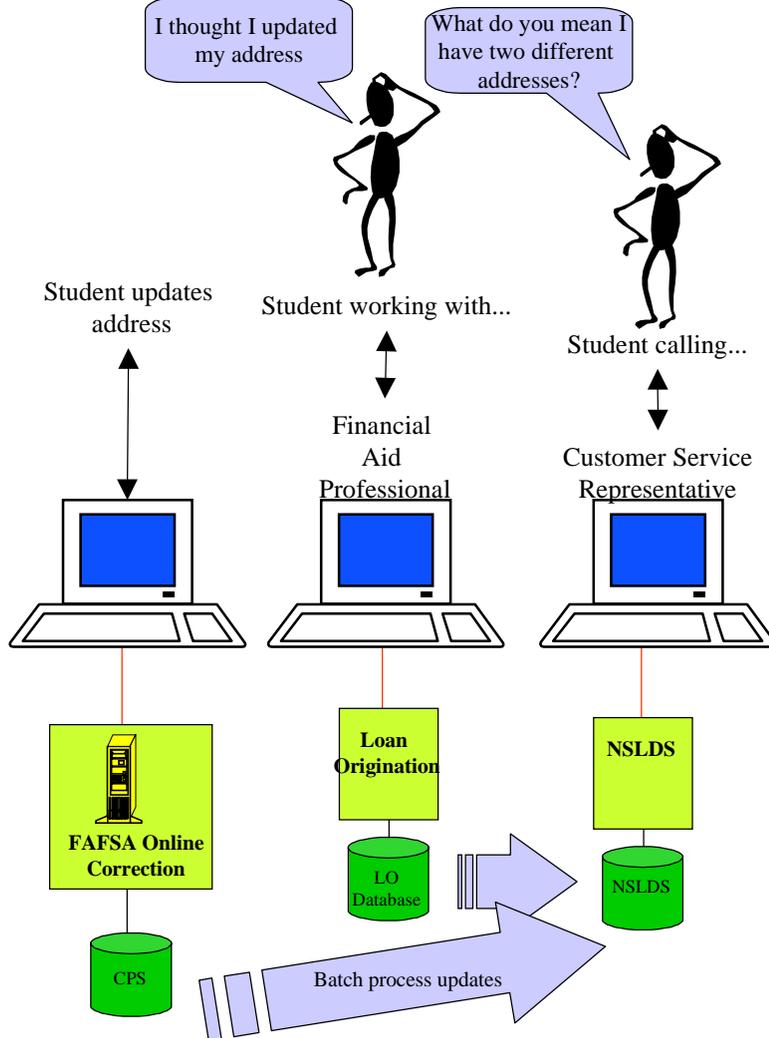




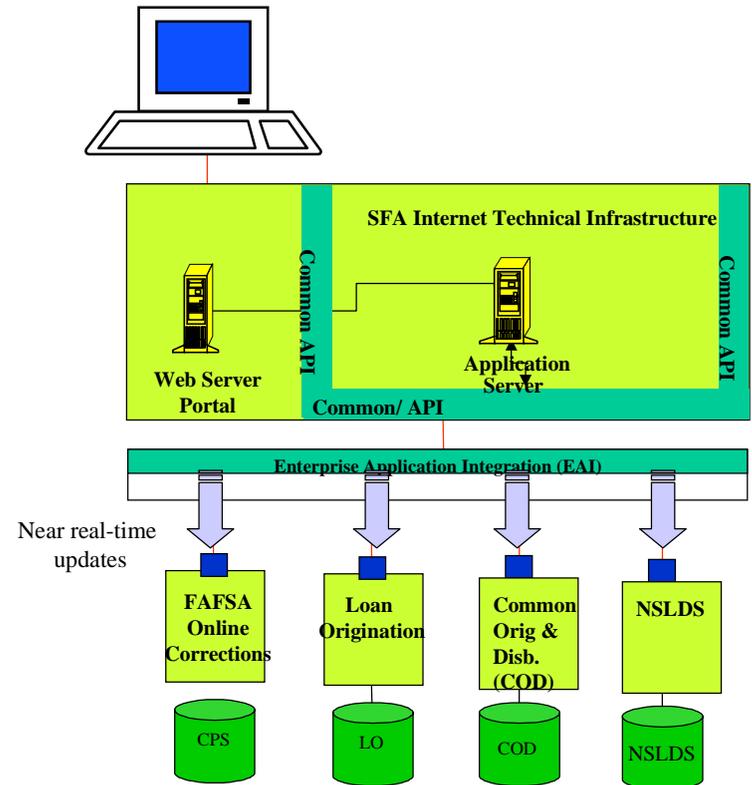
Enterprise Application Integration - Benefits

Reducing data errors

Student changes data in one system and the change may ...eventually... get propagated



Data entered once by student or Financial Aid Professional and multiple systems simultaneously receive the same update data command





Enterprise Application Integration (EAI) Work Products

Building the EAI Core Capability will create the following results:

- **Enable the Internet architecture to communicate with back-end systems**
- **Design and enable message routing between application systems**
- **Design and develop message flows based on SFA business rules**
- **Provide MQI, AMI and JMS programming interfaces, to support SFA application integration**
- **Establish SFA messaging standards and guidelines in a consistent architecture framework**
- **Develop a strategy, plan and approach to establish component-based application services**
- **Establish a methodology for the development of reusable components (Servlets, JSP's, EJB's, etc.)**
- **Define component management methodologies, including the tools to support component reuse.**



Integrated Technical Architecture ITA Release 2.0 Details

December 18, 2000



FY01 Integrated Technical Architecture - ITA Release 2.0

Cost Breakdown

	Core (Foundation)	Victory List Initiative Specific Software	EITM Requested Funding
ITA Rel 2	\$ 3.00	\$ 1.50	\$ 4.50
		FOTW	

FY01 ITA Release 2.0 Costs are composed of the Following:

- \$3.0M for Installation, Configuration, Integration, and Customization of 2 additional web servers, 6 additional application servers, fail-over hardware and software, Distributed File Management System.
- \$1.5M for software licenses
(Primarily to support FOTW capacity and performance requirements)



FY01 Integrated Technical Architecture - ITA Release 2.0

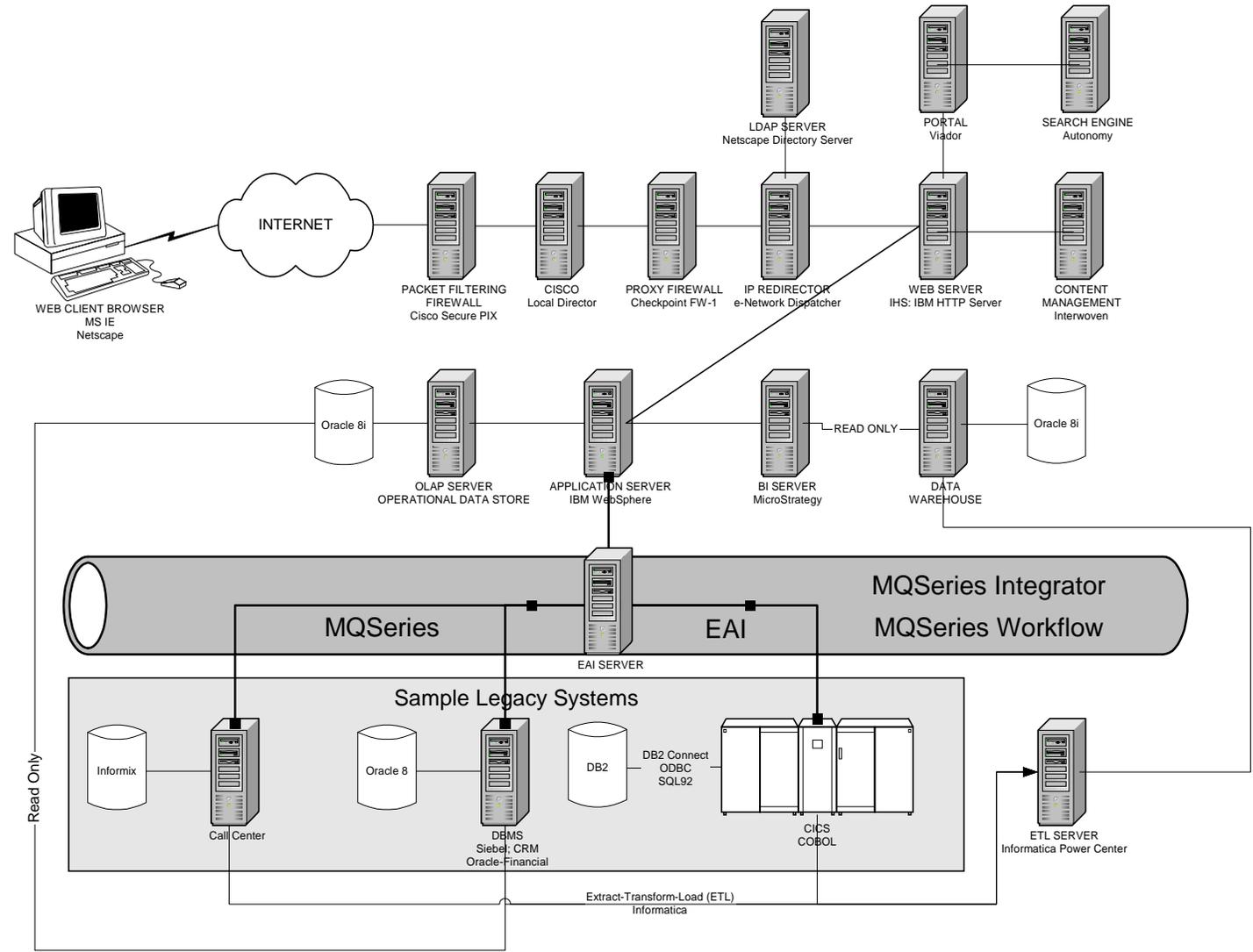
Victory List Initiatives Schedule

To support SFA's documented business objectives in FY01, the ITA deployment team will utilize the following schedule to implement the Integrated Technical Architecture in support of Victory List initiatives.

	Development	Test	Production	ITA Elements Required
FAFSA	Jan / Feb 2001	June-01	August-01	Development environment, Websphere Application Server, IBM Web server, EAI
COD	April-01	September-01	February-02	Development environment, Websphere Application Server, IBM Web server, EAI
TIVWAN/ b Trade	March-01	June-01	October-01	Development environment, Websphere Application Server, IBM Web server, EAI
FMS	April-01	July-01	November-01	Development environment, Websphere Application Server, IBM Web server, Informatica ETL, Oracle DBMS, Microstrategy, EAI
DL e-Serv.	May-01	September-01	November-01	Development environment, Websphere Application Server, IBM Web server, EAI
FP. Data Mart	March-01	May-01	July-01	Development environment, Websphere Application Server, IBM Web server, Informatica ETL, Oracle DBMS, Microstrategy
Ombudsman				Development environment, Websphere Application Server, IBM Web server, EAI
Portals w/SSO				Development environment, Websphere Application Server, IBM Web server, Informatica ETL, Oracle DBMS, Microstrategy, EAI



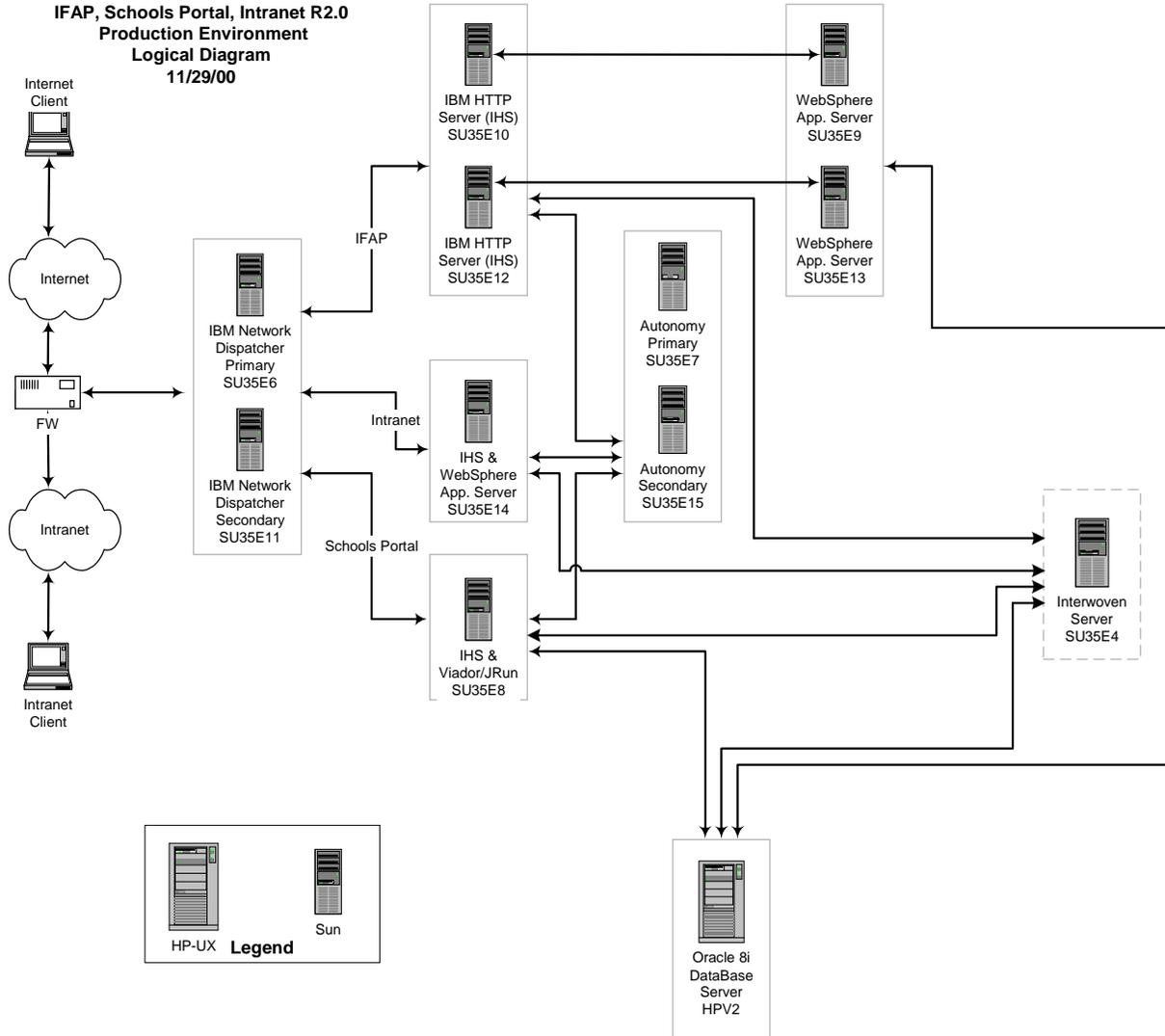
FY01 Integrated Technical Architecture - Logical representation of ITA





FY01 Integrated Technical Architecture SFA Benefits -

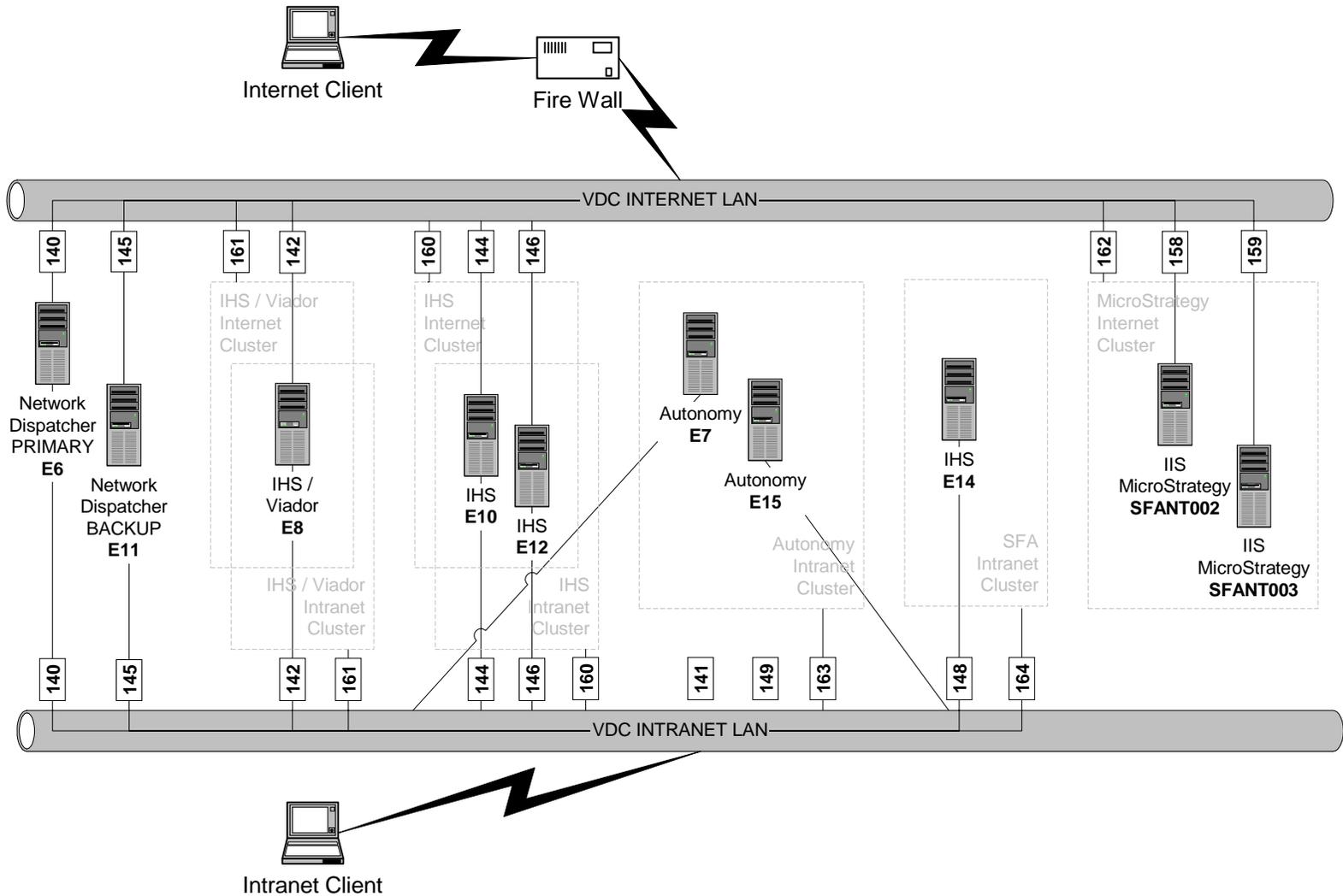
Reduced unit cost for operations and increased scalability





FY01 Integrated Technical Architecture SFA Benefits -

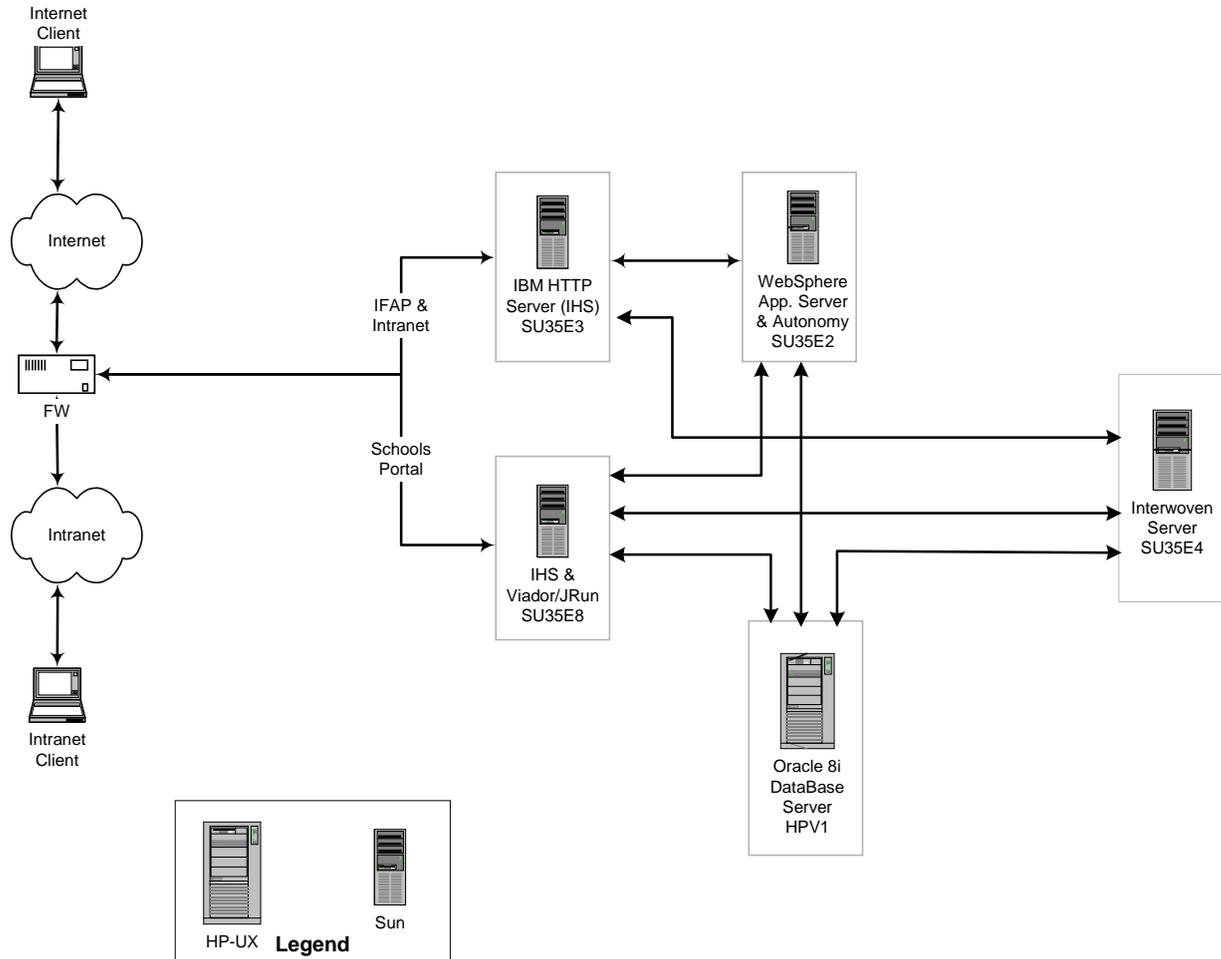
Increased application and infrastructure availability





FY01 Integrated Technical Architecture SFA Benefits - Development/Testing/Staging Environment

IFAP, Schools Portal, Intranet R2.0
Development/Testing/Staging Environment
Logical Diagram
11/29/00





Integrated Technical Architecture (ITA) Results

Building the ITA Core Capability will provide services, support, and engineering to maintain and enhance the Internet, EAI, and Security architectures, and will create the following results:

- **Provide on-going technical and functional support of the Integrated Technical Architecture**
- **Design, build, and test incremental component and ITA services (that will directly support business initiatives/applications)**
- **Provide post-release 1.0 implementation analysis and review**
- **Support ITA infrastructure upgrades, including hardware and software product evaluation of new versions, patches, and upgrades**
- **Define and enhance the development and test environments to support application development and testing**



Information Security Policies and Procedures Details

December 18, 2000



FY01 Information Security - Security Cost Breakdown

	Core (Foundation)		EITM Requested Funding
Security	\$ 1.00		\$ 1.00

FY01 Information Security Costs (\$1.0 M) Are Composed of the Following:

- Develop and implement a security incident tracking and reporting process
- Support business units in conducting A-130 risk assessments, system security plans, and certification and accreditation for all new modernization applications
- Provide consultation to business units and partners on implementing security and privacy improvements in SFA and partner systems



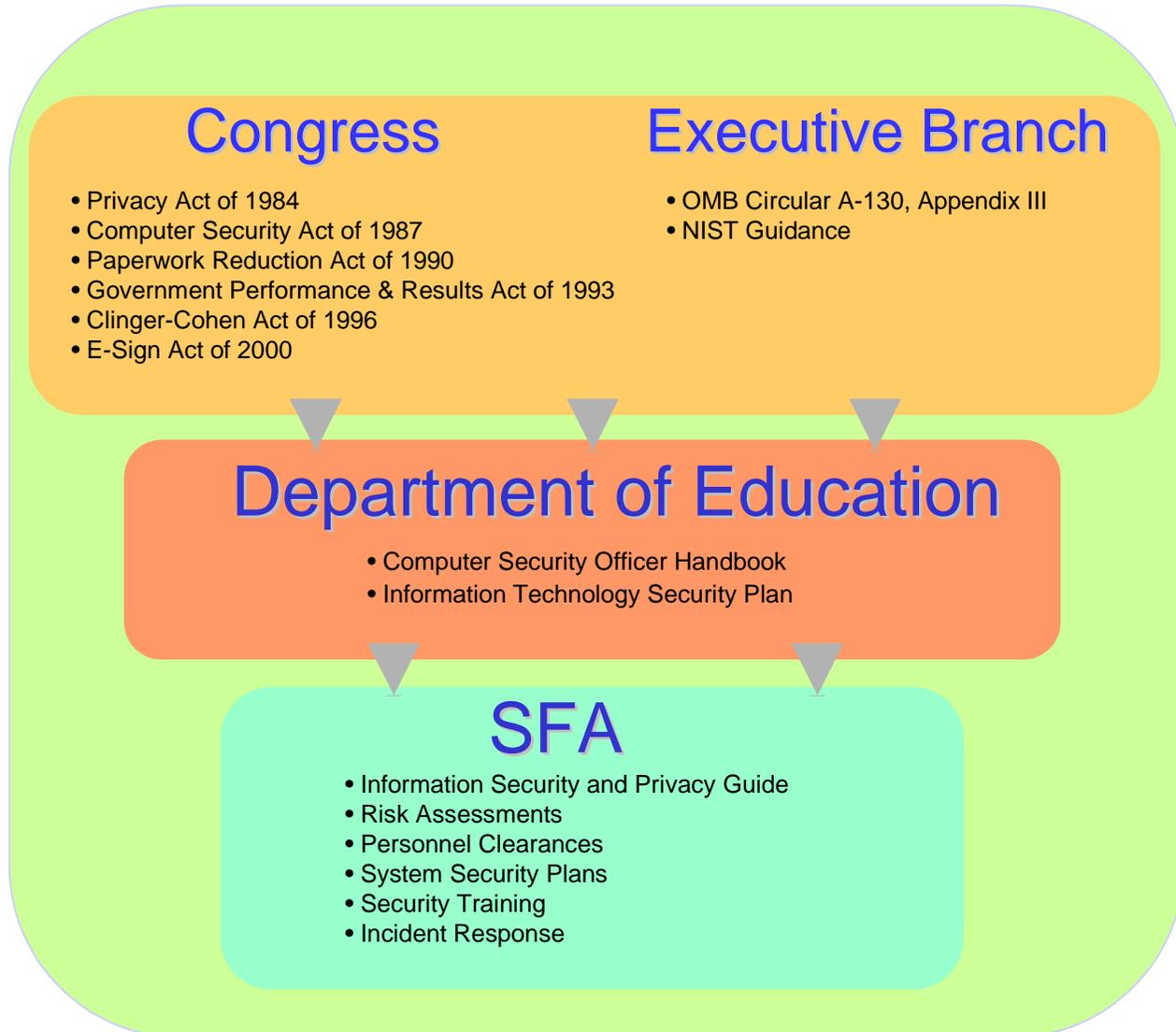
FY01 Information Security - Victory List Initiatives Schedule and Security Implications

To support SFA's documented business objectives in FY01, the Information Security team will utilize the following schedule to implement the Information Security Architecture-Plan in support of Victory List initiatives.

	Development	Test	Production	Information Security Implications and Support
FAFSA	Jan / Feb 2001	June-01	August-01	Updated risk assessment, system security plan, certification and accreditation
COD	April-01	September-01	February-02	Risk assessment, system security plan, certification & accreditation
TIVWAN/ b Trade	March-01	June-01	October-01	Risk assessment, system security plan, certification & accreditation
FMS	April-01	July-01	November-01	Risk assessment, system security plan, certification & accreditation
DL e-Serv.	May-01	September-01	November-01	Risk assessment, system security plan, certification & accreditation
FP. Data Mart	March-01	May-01	July-01	Risk assessment, system security plan, certification & accreditation
Ombudsman				Risk assessment, system security plan, certification & accreditation
Portals w/SSO	NOT INCLUDED IN THIS BUSINESS CASE			Select SSO technology, test and implement, conduct risk assessment, system security plan, certification & accreditation



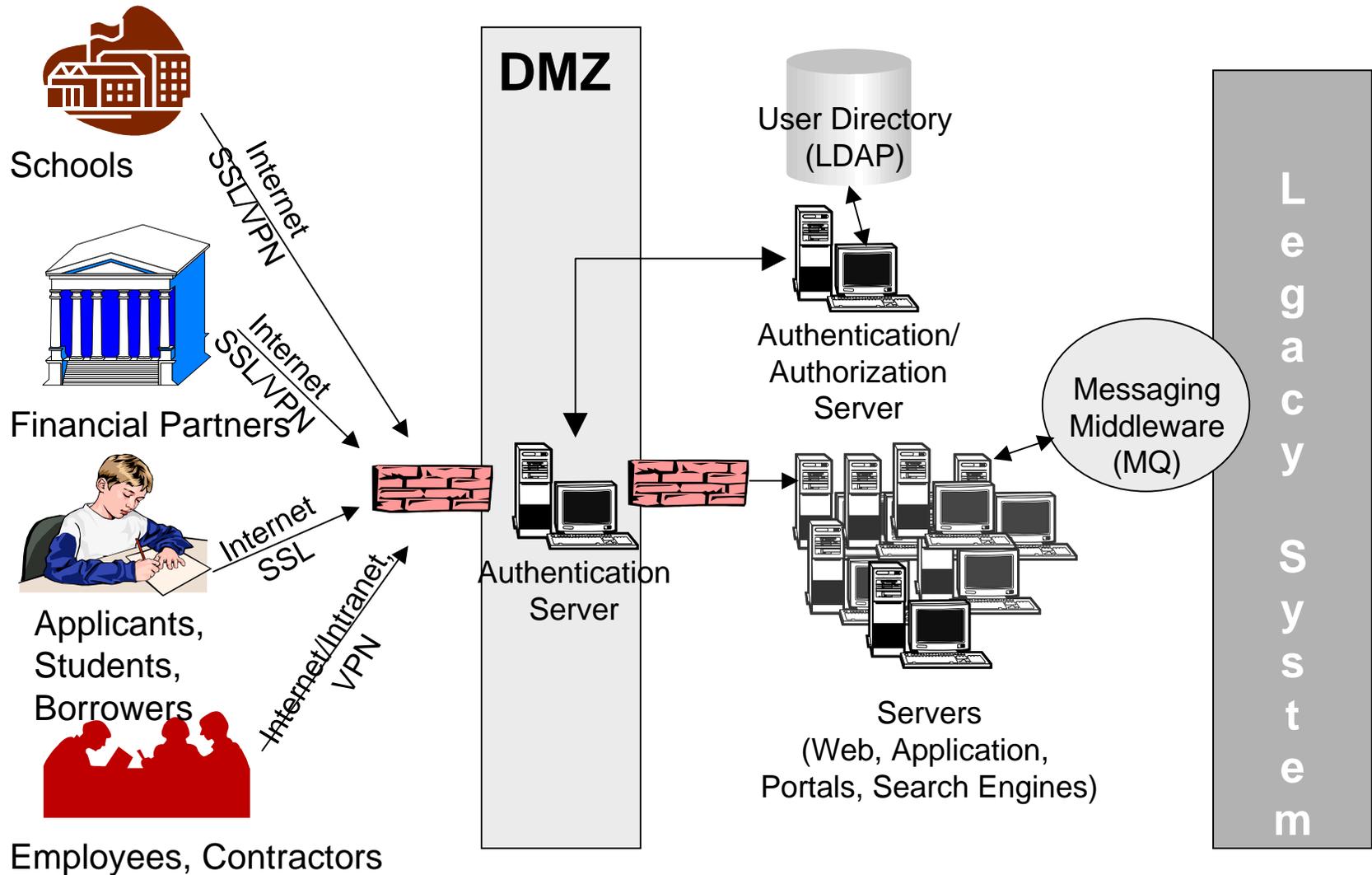
FY01 Information Security - Context for Security Services





FY01 SFA Information Security

Secure Internet, Extranet, and Intranet services **NOT INCLUDED IN THIS BUSINESS CASE**



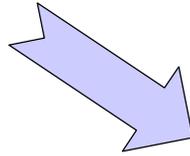


FY01 Information Security SFA Benefits -

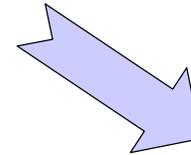
Ensure SFA meets its security and privacy commitment to the public



Secure
Development



Review,
Certification
& Accreditation



Systems Worthy
of Trust



Enterprise Information Security Results

- **Establish an operational security and privacy program in SFA**
- **Monitor intrusion detection throughout SFA**
- **Conduct and update risk assessments and conduct security reviews on ALL SFA systems and infrastructure elements, culminating in up-to-date system security plans for ALL systems**
- **Carry out an on-going communications program (including training, incident tracking and reporting) to support the security and privacy program.**