

Technology Strategic Plan

Office of Information Technology Services

Board of Education Review

October 2011



Outline

- OITS assessment
- Organizational Alignment
- DOE Systems and Infrastructure
- Strategic Plan alignment and Prioritization
 - Project Roadmap
 - Prioritization
 - Investment required
 - Success Metrics
 - Risks and dependencies
- Appendix

Organizational Alignment

The need to Re-align IT

Current Challenges & Constraints

Feedback from our own IT Staff:

• Working well:

- Passionate people who work hard, know their systems, are responsive, and willing to make things happen
- Change Control Board, Technical Architecture Review Council, Standardization policy
- Good information, but in silos
- Significant improvements in some student systems, but also dealing with very old systems

• Not working well:

- Some people tied to current systems or building systems in-house
- Hardware and Network infrastructure not strong
- Weak sponsorship of systems / applications (no business owners)
- Non-standard IT systems and computers in schools
- Full capability of current systems not being used
- Skill set mismatches
- Limited documentation and understanding of customer needs
- Lack of Project management

Current Challenges & Constraints

Feedback from State Leadership:

- What is needed for OITS to fulfill vision & role:
 - Finalize, approve a strategy and demonstrate incremental growth
 - Single system – holistic view
 - Single sign on
 - Total leadership buy-in
 - Major reorganization along with clarification of roles, to create stable, functional organization
 - Standardization
 - Higher level of support to field
 - Divesting low priority activities
 - Make it more about programs and processes than relationships
 - Focus more on educational outcomes rather than compliance

Current Challenges & Constraints

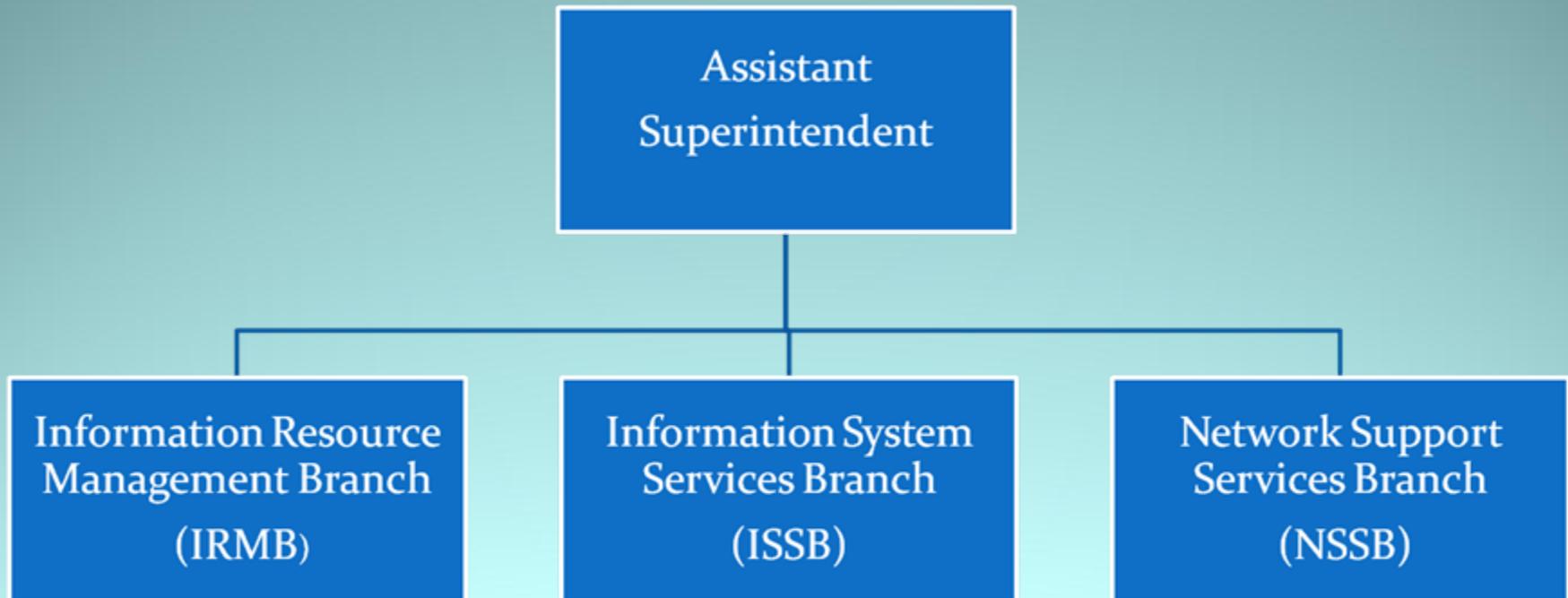
Feedback from Schools:

- Frustration with bureaucracy and the system – and the resulting inability to provide full range of services to students
- Greater concern for compliance than education
- Need to move more quickly toward 21st century capability
- High turnover in IT employees
- Wasting time to navigate the bureaucracy
- Must change image of OITS to a more responsive organization
- Important goals:
 - Single portal & sign-on
 - Use bulk ordering to be more cost-effective (offer to schools rather than dictate)
- Need to be more proactive

Resonating Themes:

- Must realign to focus on service to our constituents in the schools, break down technology silos, and improving educational outcomes.
- Standardize our technology to provide the support we need
- Improve project delivery / execution
- Structures and processes for making technology decisions not as a branch / office, but as the DOE.

“Before” OITS Organizational Structure

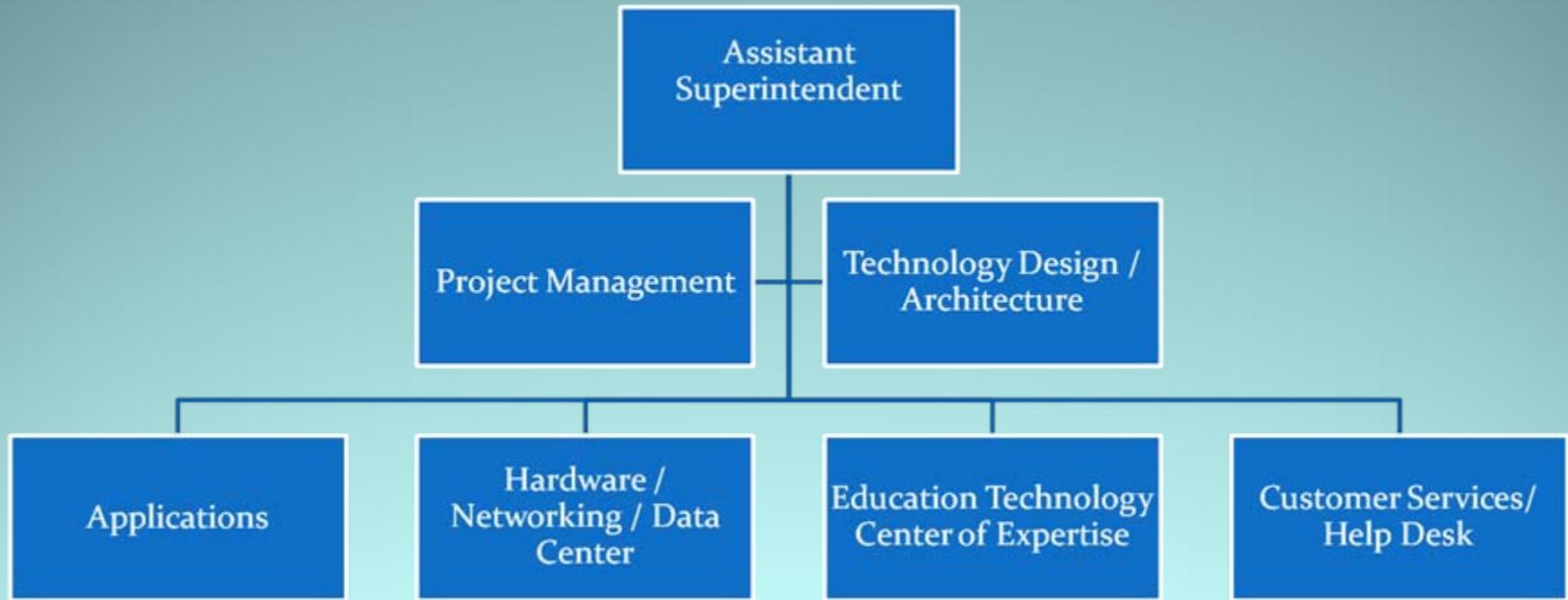


Characteristics:

- Each Branch organized as a silo
- Customer support, training, infrastructure distributed into each branch
- No project management function
- Contains non-technology specific functions

- No architectural oversight
- Very limited capability to flexibly redistribute resources to manage crises

“After” OITS Organizational Structure



Advantages:

- Elevates importance of customer support
- Groups similar functions, massing expertise
- Creates more homogenous jobs
- Provides capacity to perform new critical functions
- Leverage held vacancies over past years to facilitate workforce shift rather than

requesting additional headcount.

- Create new capacity for Project Management and Enterprise Architecture functions

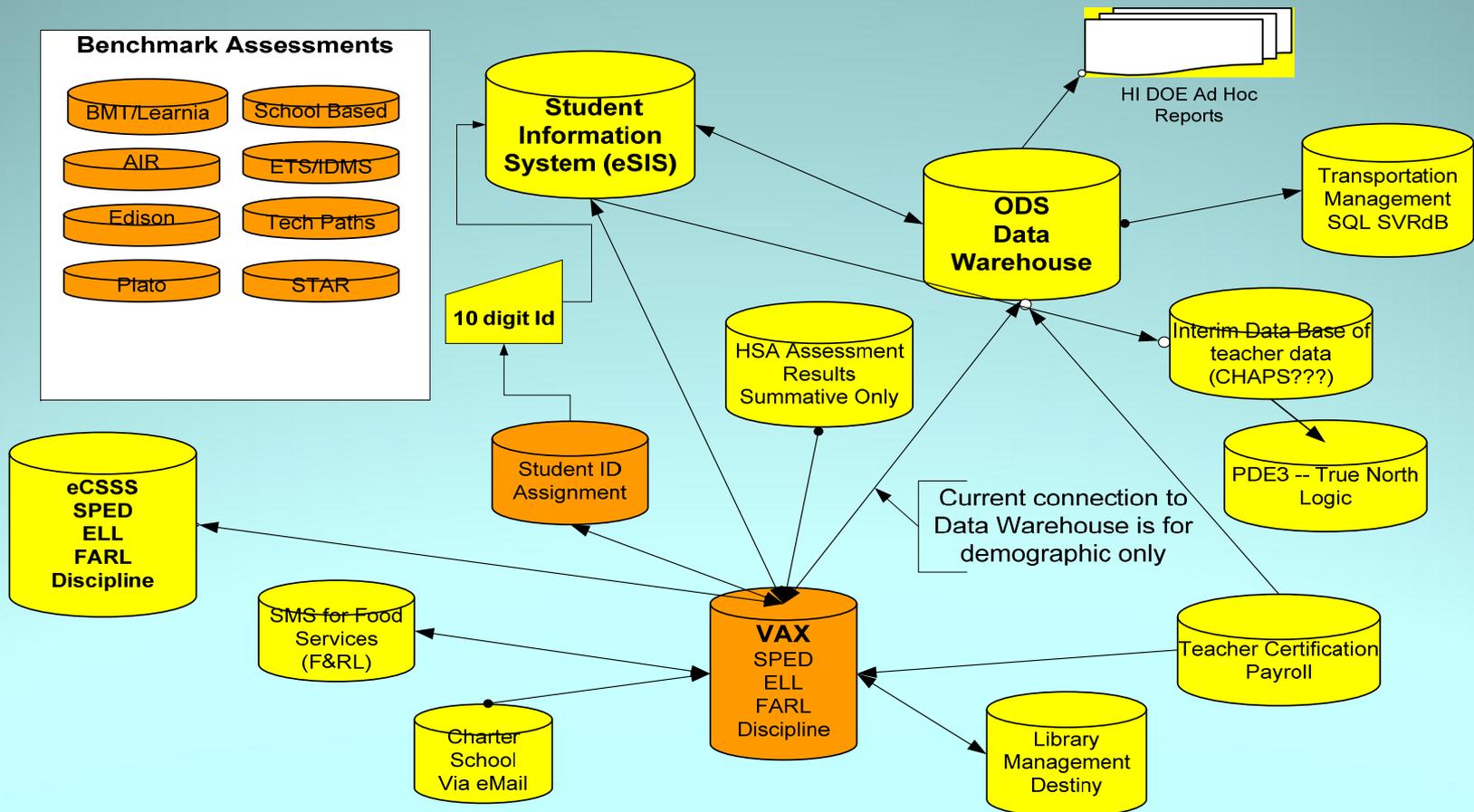
Challenges:

- Changes long standing ways of doing business
- Breaks up some high performing teams
- Branch size varies

IT Systems and Infrastructure

Application Architecture – Current State

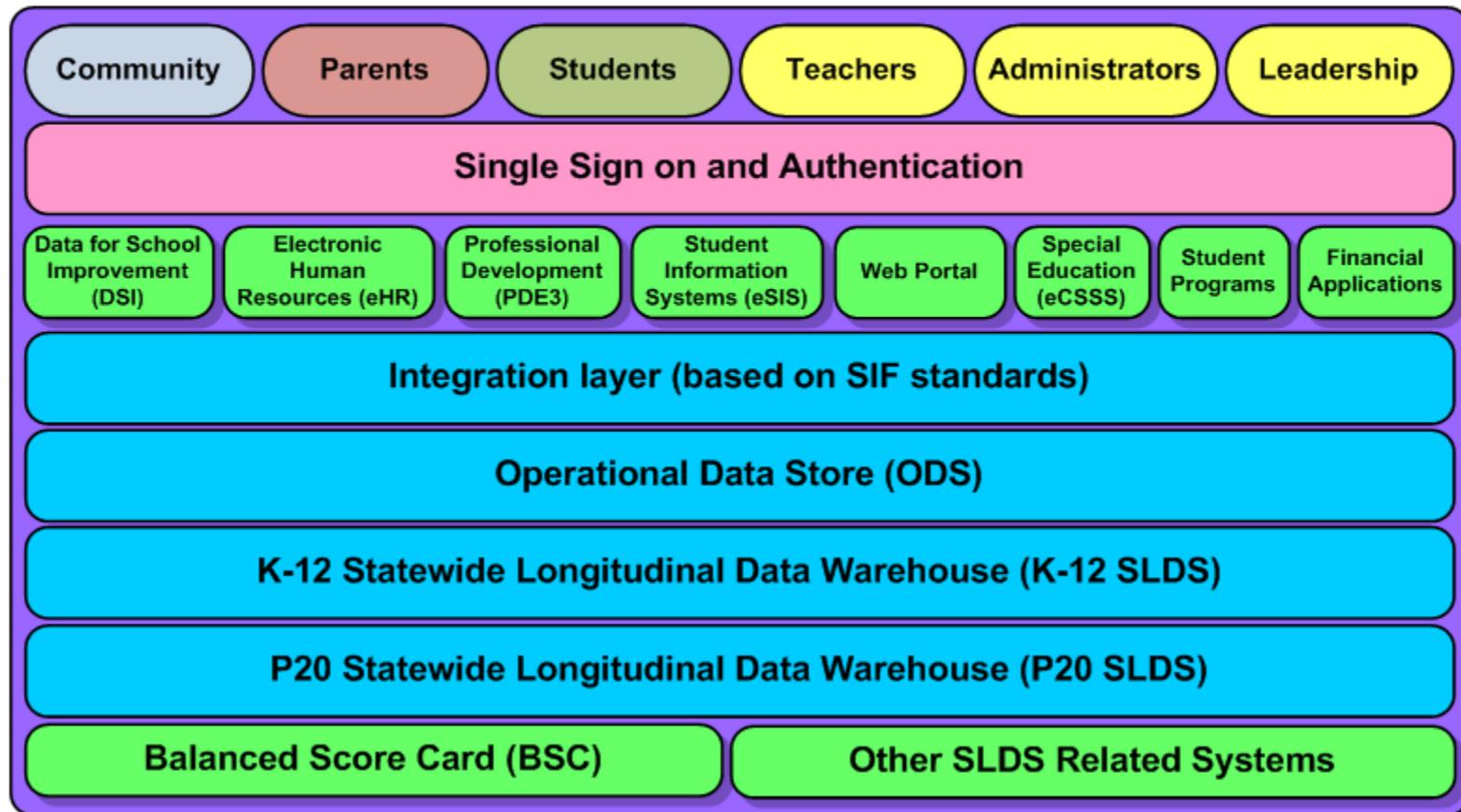
HIDOE Data Current State



Data Architecture – Future State

HIDOE Reference Architecture (summarized)

based on the Curriculum Development / Learning Management (CDLM) conceptual model



Application Architecture – Current vs. Future State and “A vision for Education ERP”

Current State

Future State

Mainframe

FMS
Payroll

VAX

Budget Execution
Budget Prep
Casual Payroll
Casual Personnel

Oracle

eHR

Kronos

Time & Attendance

Web Apps

LSF Accounting
PDE3
T-SEAS
Sharepoint

Lotus Notes

Email
Database apps

**Statewide
ERP
Replacement**

**Web
Portal**

3rd Party
Web
Applications

Cloud

Email
Collaboration **

Current State

Future State

**Special Ed
Case
Mgmt.**

**Student
Information
System
(various)**

**Special Ed
Case Mgmt.
Replacement**

**SIS
Replacement**

**Learning
Mgmt.
System**

**IIS:
Instructional
Improvement
Systems**

** Under evaluation

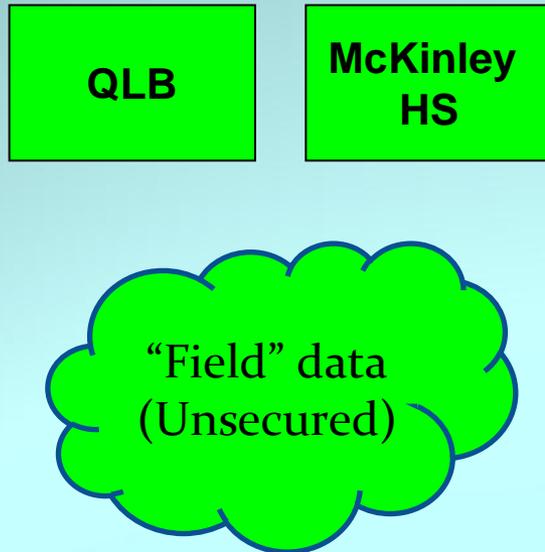
Infrastructure Architecture – Current State

Issues & Challenges

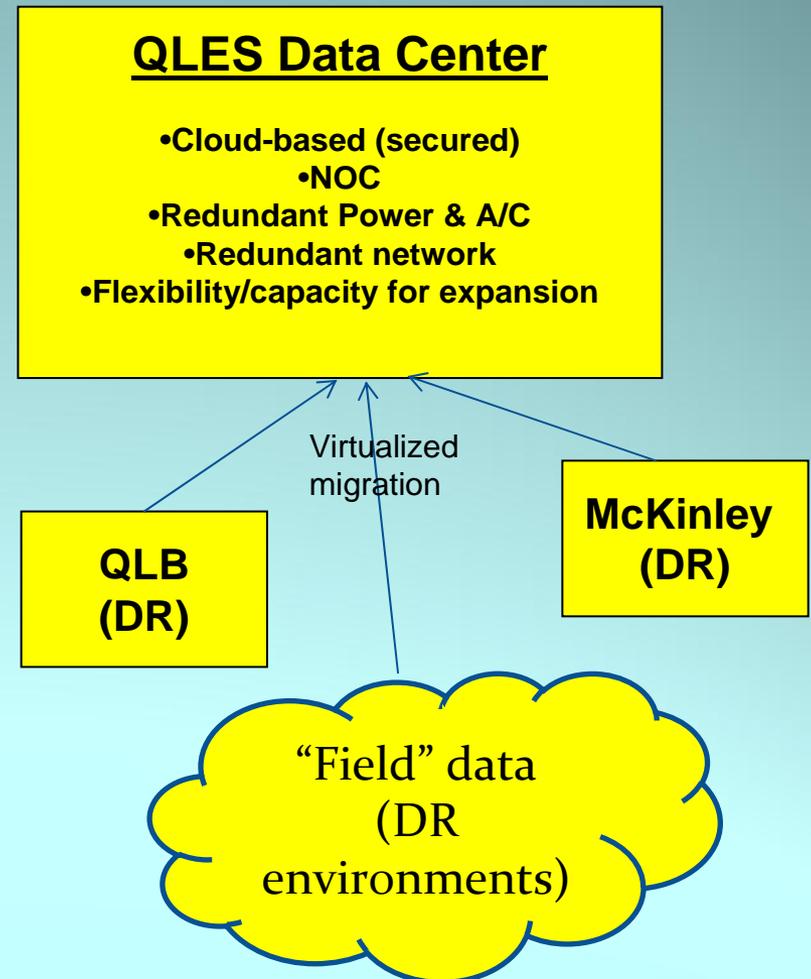
- No backup generator (in main data center)
- No VLAN capabilities
- No quality of service capabilities
- Limited IP monitoring capability
- Limited capability for unified communications
- Network bandwidth inconsistent across state (being addressed by BTOP project)
- Flat statewide Network architecture causes major performance issues and complicates network management
- Connection to Internet is a single point of failure

Infrastructure Architecture – Data Center

Current State



Future State



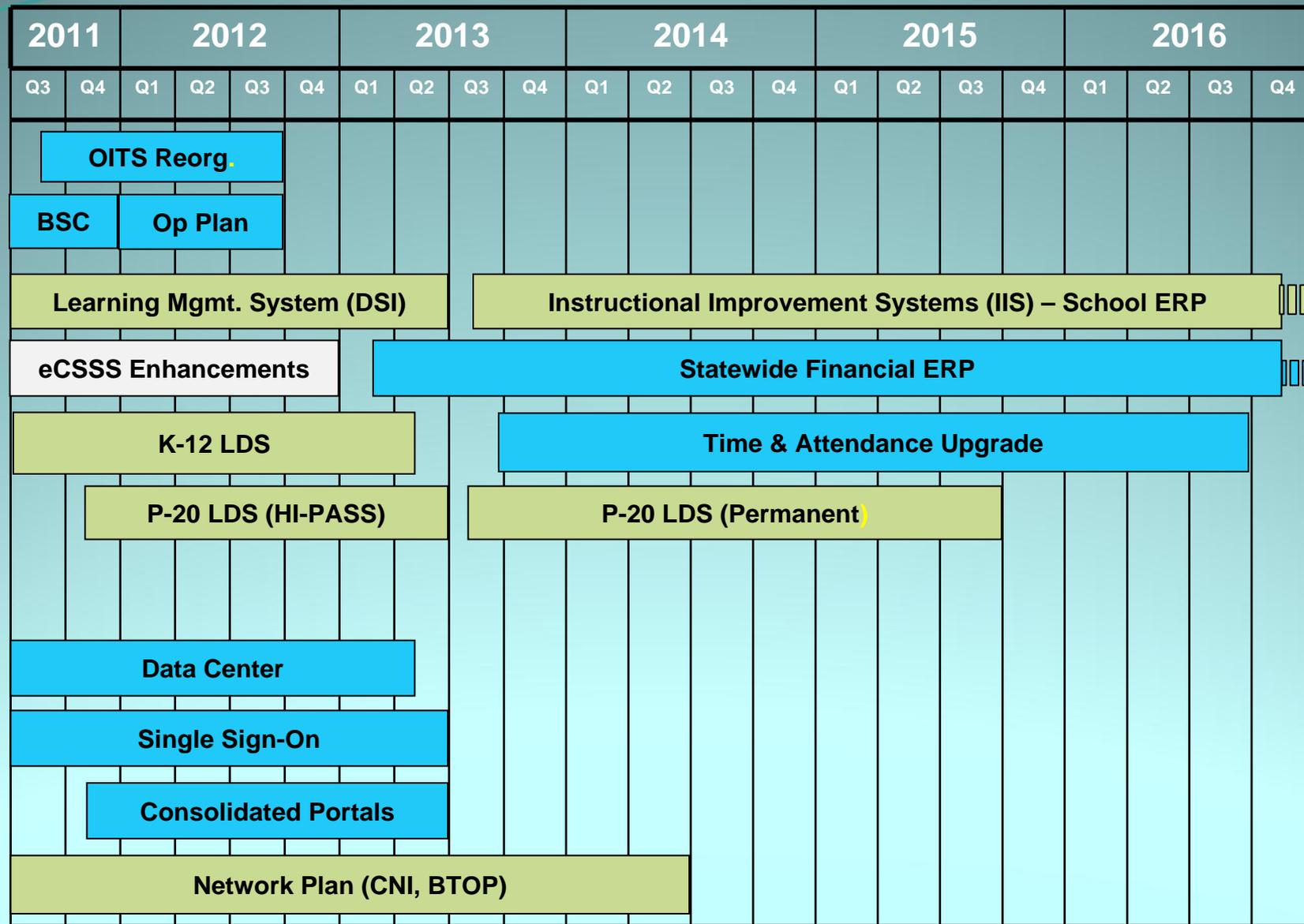
Strategic plan alignment and prioritization

OITS Strategy

OITS will support the goals of the DOE strategic plan through cooperation with DOE state offices, complex areas, and schools.

DOE Strategic Plan	OITS Contribution
<p>Goal #1: Assure all students are college and career ready through the effective use of standards-based education</p>	<ul style="list-style-type: none">• Enhance, maintain, and support systems used for formative assessments (DSI) and longitudinal data analysis (LDS).• Complete planned upgrades of DOE's network infrastructure to support increased usage of 21st century technology in the classroom.
<p>Goal #2: Ensure and sustain a rich environment and culture for life long learners</p>	<ul style="list-style-type: none">• Enhance, maintain, and student support case management systems (eCSSS) with appropriate and timely supports• Cooperating with OHR, implement performance evaluation systems and processes.• Cooperating with OCISS and OHR, increase equity of student access to highly qualified teachers through increased usage of distance learning technologies.
<p>Goal #3: Continuously improve the effectiveness, efficiency, and responsiveness of the educational system</p>	<ul style="list-style-type: none">• Automate and streamline accounting and procurement processes through implementation of next generation ERP capabilities.• Increase capacity to respond to peak periods of IT service requests through building deeper IT skill specialization and implementation of the proposed OITS reorganization plan.

OITS Strategic Plan - Project Roadmap



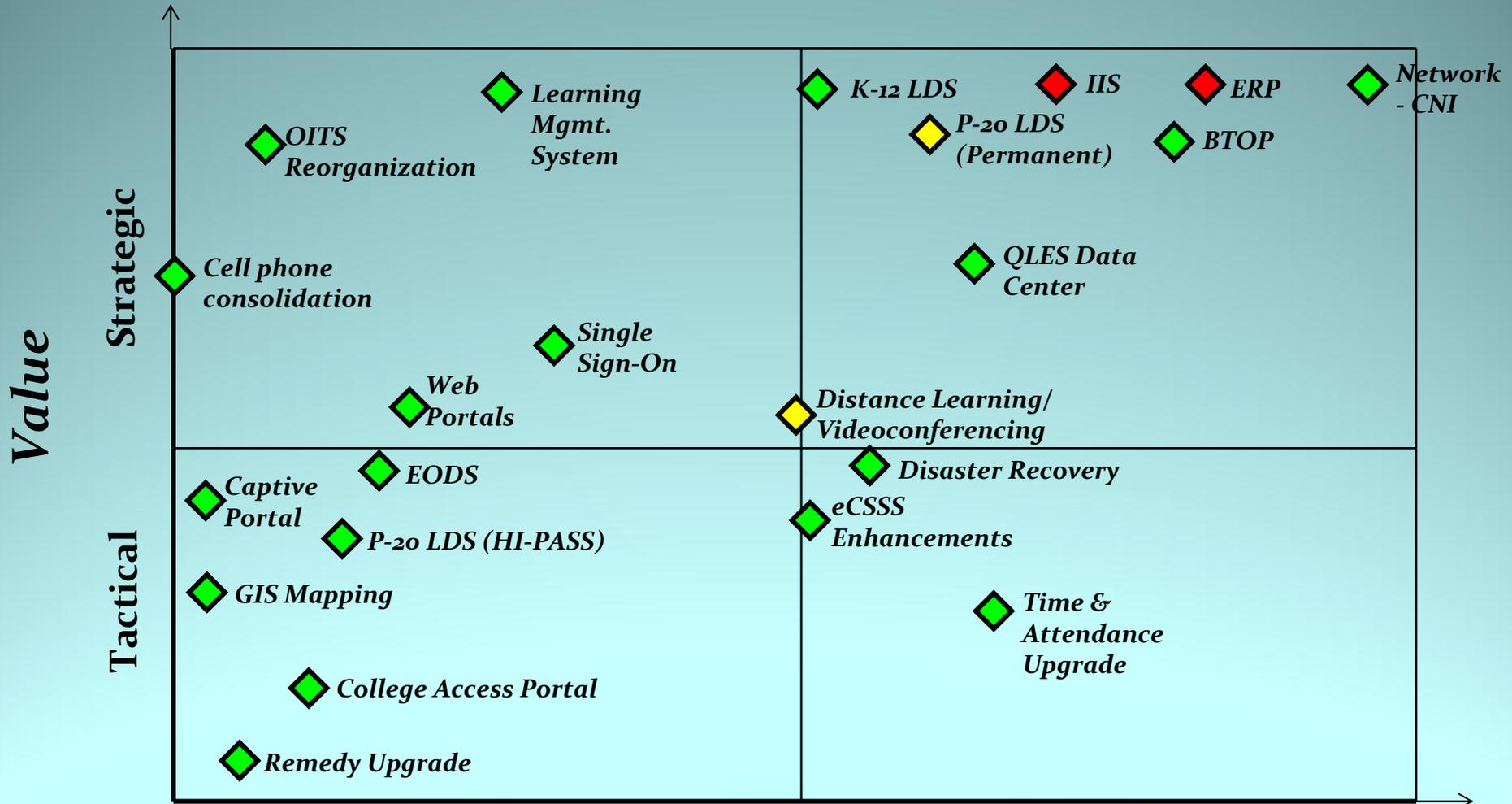
◆ = Goal 1

◆ = Goal 2

◆ = Goal 3

OITS Strategic Plan - Prioritization

Give highest priority to projects that deliver the “biggest bang for the buck”.



Legend:

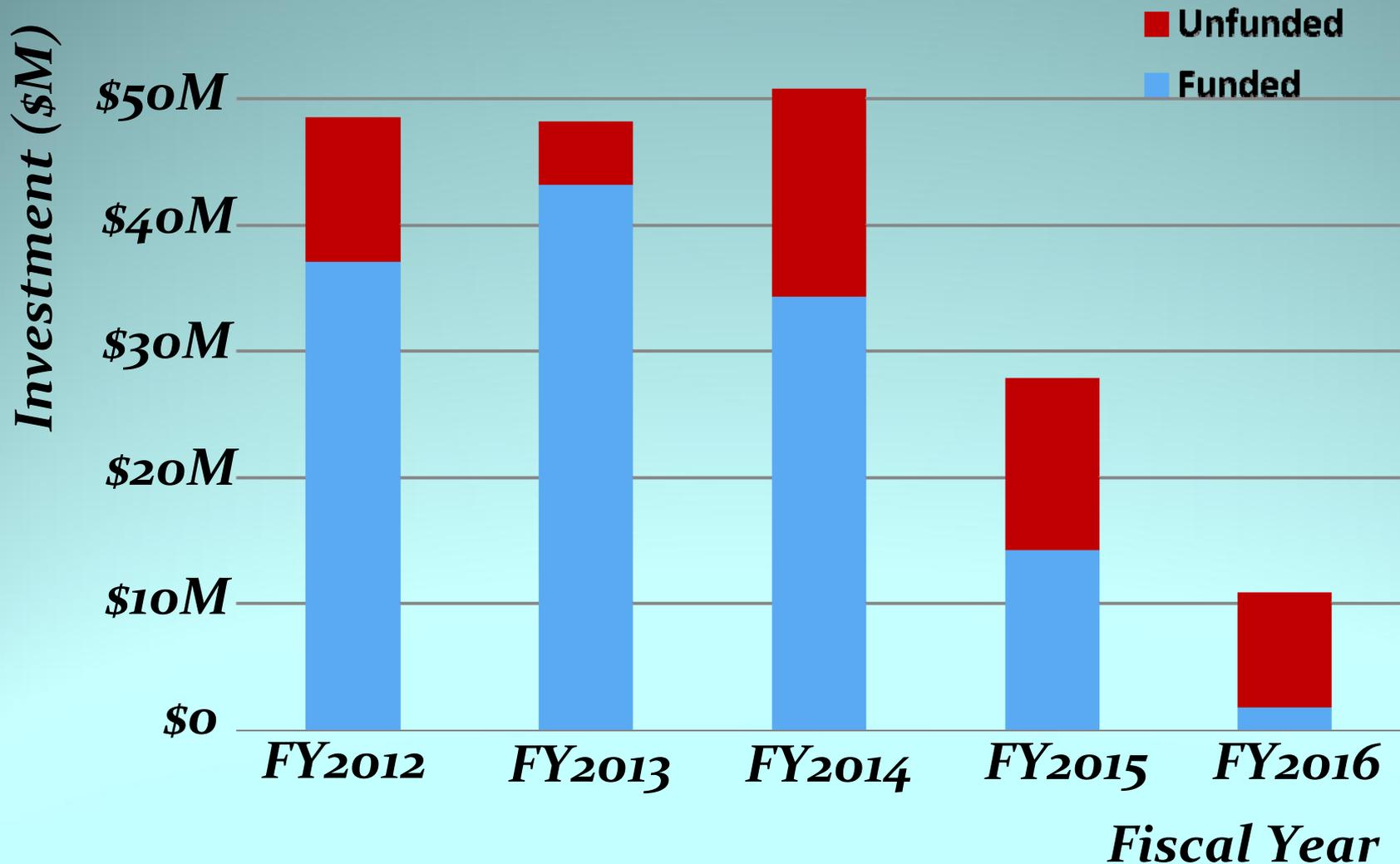
Green Diamond = In Progress

Yellow Diamond = Funded, Not Started

Red Diamond = Not Funded, Not Started

OITS Strategic Plan - Investment

The OITS strategic plan will require \$56-60M in additional funding over the next five years.



OITS Strategic Plan – Success Metrics

OITS has developed a set of metrics that aligns to the DOE strategic plan. The key metrics are summarized below:

Project Delivery

- % of projects delivered
- % of projects delivered on time and on budget

IT Service Management

- Uptime % for DOE core applications (eSIS, eCSSS, DSI, LDS, FMS, eHR)
- Average time for request fulfillment / issue resolution
- First call resolution (% of requests resolved on first call)
- OITS customer satisfaction survey scores

OITS Strategic Plan – Risks & Dependencies

Risks

- Funding not available for projects and ongoing support for priorities identified on the IT roadmap
- Improved market for IT skills could adversely affect retention of key OITS staff
- Resource allocation is drawn away from strategic efforts to address short-term tactical needs

Dependencies

- Timing of reorganization process
- DOE leadership support for IT strategic plan
- Attracting and retaining key IT personnel with non-competitive compensation for IT talent

Questions?

Appendix

IT Investment Plan – Project Data

Hawaii Department of Education
Office of Information Technology Services
IT Project Listing -- Investment Plan (in \$000)

LEGEND:

INFRASTRUCTURE
APPLICATIONS
DATA
ORGANIZATION

Project	FY2012			FY2013			FY2014			FY2015			FY2016			5-YEAR TOTALS			Projected Total Budget	
	Funded	Unfunded	Total	Funded	Unfunded	Total														
Tier 1 - Strategic Priorities																				
Network - CNI	20000	0	20000	25000	0	25000	20000	0	20000	10000	0	10000	0	0	0	75000	0	75000	75000	
Network - BTOP	10000	0	10000	10000	0	10000	5000	0	5000	0	0	0	0	0	0	25000	0	25000	25000	
Network - WAN Upgrade	887	0	887	887	0	887	887	0	887	0	0	0	0	0	0	2661	0	2661	2661	
Instructional Improvement System (IIS)	0	0	0	0	0	0	0	1000	1000	0	6600	6600	0	2100	2100	0	9700	9700	15000	
DSI Enhancements (Gradebook)	0	500	500	0	500	500	0	500	500	0	0	0	0	0	0	0	1500	1500	4500	
ERP Replacement	0	0	0	0	1000	1000	0	15000	15000	0	7000	7000	0	7000	7000	0	30000	30000	30000	
K-12 LDS	900	0	900	0	0	0	0	0	0	0	0	0	0	0	0	0	900	0	900	3470
P-20 LDS (HI-PASS)	120	0	120	505	0	505	315	0	315	0	0	0	0	0	0	0	940	0	940	940
P-20 LDS (Permanent)	0	0	0	0	0	0	3600	0	3600	1700	0	1700	1700	0	1700	7000	0	7000	7000	
OITS Reorganization	0	300	300	0	200	200	0	0	0	0	0	0	0	0	0	0	500	500	500	
Tier 2 - New Capability Investments																				
Data Center (QLES & McKinley HS)	0	4000	4000	0	2000	2000	0	0	0	0	0	0	0	0	0	0	6000	6000	8000	
QLES Office Relocation - OITS	0	1112	1112	0	0	0	0	0	0	0	0	0	0	0	0	0	1112	1112	1112	
Single Sign-On / Identity Mgmt	0	0	0	1270	0	1270	470	0	470	0	0	0	0	0	0	1740	0	1740	1740	
Consolidated Portals	668	0	668	0	327	327	0	0	0	0	0	0	0	0	0	668	327	995	995	
Distance Learning / Videoconferencing	0	0	0	1500	0	1500	1468	0	1468	0	0	0	0	0	0	2968	0	2968	2968	
Cell Phone Consolidation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EODS	450	0	450	450	0	450	0	0	0	0	0	0	0	0	0	900	0	900	900	
FRS	500	0	500	0	0	0	0	0	0	0	0	0	0	0	0	500	0	500	1400	
GIS Mapping	0	0	0	170	0	170	0	0	0	0	0	0	0	0	0	170	0	170	170	
College Access Portal	330	0	330	830	0	830	0	0	0	0	0	0	0	0	0	1160	0	1160	1160	
Tier 3 - Tactical Enhancements																				
Time & Attendance Upgrade	2500	0	2500	2500	0	2500	2500	0	2500	2500	0	2500	0	0	0	10000	0	10000	13200	
eCSSS Enhancements	0	3340	3340	0	0	0	0	0	0	0	0	0	0	0	0	0	3340	3340	4700	
SSES / VAX Retirement	250	0	250	0	0	0	0	0	0	0	0	0	0	0	0	250	0	250	250	
Sharepoint 2010 Upgrade	0	125	125	0	0	0	0	0	0	0	0	0	0	0	0	0	125	125	325	
Captive Portal	170	0	170	0	0	0	0	0	0	0	0	0	0	0	0	170	0	170	170	
Remedy Upgrade	200	0	200	0	0	0	0	0	0	0	0	0	0	0	0	200	0	200	200	
Disaster Recovery	0	2000	2000	0	1000	1000	0	0	0	0	0	0	0	0	0	0	3000	3000	3000	
System Failure Analysis	0	150	150	0	0	0	0	0	0	0	0	0	0	0	0	0	150	150	150	
TOTALS:	36975	11527	48502	43112	5027	48139	34240	16500	50740	14200	13600	27800	1700	9100	10800	130227	55754	185981	204511	