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June 23, 2013

PARCC
Partnership for Assessment of Readiness for College and Careers

Technology Readiness and Implications for States

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Chair – PARCC Technology Committee

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What Is PARCC?

The Partnership for Assessment of Readiness for College and Careers:

- Made up of **21 states**
- Developing common, high-quality **math** and **English language arts (ELA) tests** for **grades 3–11**
  - Computer-based and linked to what students need to know for college and careers
  - For use starting in the 2014–15 school year

PARCC
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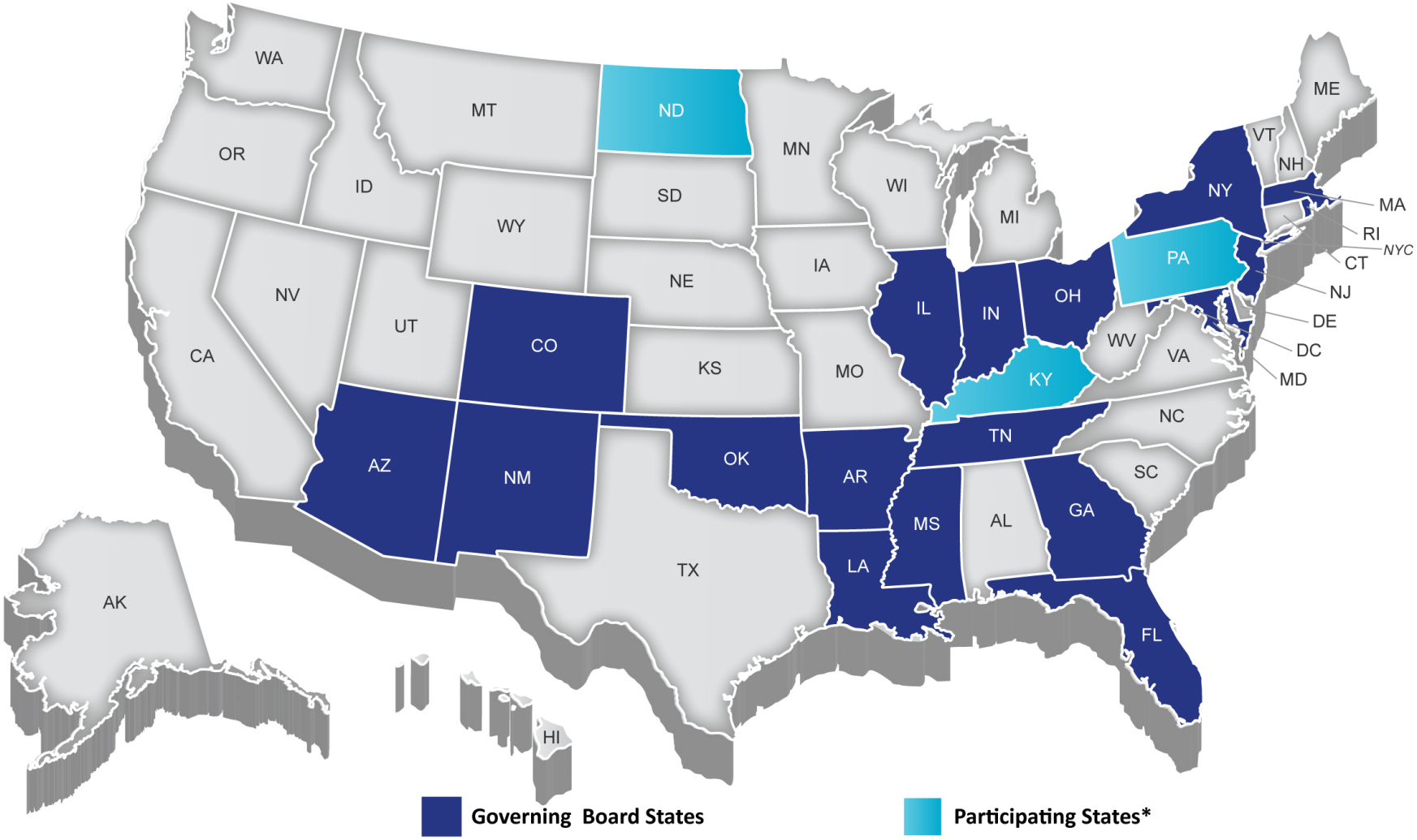
PARCC States



PARCC Timeline

Available Now:	PARCC Item Prototypes, TRT and Capacity Planning Tool
Summer 2013:	Item Try Outs and Research Studies
Fall 2013:	System Check Tools Open
Spring 2014:	Field Test
Spring 2014:	Full Practice Test Available
School Year 2014-2015:	First Operational Assessment

Leveraging Technology

Technology-Enhanced Items	• TEIs present assessment items and capture student responses in a way that cannot be accomplished with paper and pencil • Enable scalable and cost-efficient delivery and scoring of cognitively complex tasks e.g., simulation, multimedia constructed response
Common Technology Platform	• Single platform for accessing summative and non-summative assessments, diagnostic tools, practice tests, curricular and PD resources will be available throughout the school year. • Common technology infrastructure aids sustainability.
Student Accessibility	• Adherence to recognized technology standards will allow for supports and accessibility information to be embedded in digital test items.
Scoring, Reporting, and Analysis	• Automated scoring enables more timely results that allow assessments to inform instruction. • Online testing supports finer-grained data collection on student abilities and student interactions with assessments.

PARCC Assessment Technology Shifts

	From	To
Scale	Individual state tests	Multistate consortia sharing common tests, common infrastructure, and economies of scale.
Content	Low complexity items and task response modes.	Cognitively complex tasks that leverage use of multimedia, interactivity, authentic tasks, multi-part, simulations – and address traditionally difficult to assess skills within the Common Core.
Delivery	- Once a year - Paper and pencil	Computer-based assessment **system** including summative, mid-year, diagnostic components + curricular and professional development resources.
Scoring & Reporting	- End of year - Decontextualized - High Level	- Data to inform instruction - Contextualized to CCSS - More granular feedback
Data	Student responses	- Responses, interactions, patterns - Data for state longitudinal systems - Results will be interpretable across states (for example when a student moves from one state to another)
Infrastructure	- Procured services - State-specific	- Common consortium infrastructure - Scalable, flexible, extensible
Interoperability	Virtually none	Common standardized formats for results data, items, and student registration allow interoperability across states and across technical components.

PARCC Interoperability
(with example standards)

- Item description metadata (AIF, APIP, LOM)
- Item content and display (QTI, APIP)
- Item rendering (QTI, APIP, HTML5, Javascript)
- Device agnostic (HTML5, Javascript)
- Registration data (AIF, CEDS)
- Score data (AIF, CEDS)
- Standards identifiers – to granular level (CCSSO/NGA, GIM)
- Data exchange (XML, SIF)

Challenges

- Assessment Consortia are attempting to solve a multivariate differential equation (new standards, new goals, new instructional methods, new collaborations, new technologies)
- **States, districts, and schools are a very different stages of technology infrastructure development**
- **Technology development timelines (Industry vs. Education)**
- Development and implementation of new interoperability standards
- School Technology Readiness

PARCC Technology Specifications	Minimum	Recommended
Operating System	Windows XP–SP3 (with caveats) Mac OS 5 Linux: Ubuntu 9-10, Fedora 6 iOS6 Android 4.0 Chrome OS	Windows 7 or newer Mac OS 10.7 or newer Linux: Ubuntu 11.10, Fedora 16 iOS6 or newer Android 4.0 or newer Chrome OS
Memory	By operating system	1 GB RAM
Processor	By operating system	1 GHz
Screen Size	9.5 “	9.5 “ or larger
Screen Resolution	1024 x 768	1024 x 768 or better
Bandwidth	TBD	100 kbps/ student

Welcome, Firstname Lastname | Support | Sign Out

Technology Readiness Tool

Home | Setup | Readiness Results

Consortium

● SBAC ○ PARCC

Colorado

As of March 31, 2012 at 9:02 a.m.CT

Device Assessment

Colorado - 62% Ready

Export | Print

Minimum Requirements

Operating System	Windows XP
Processor	Pentium i5
Memory	2 GB
Resolution	1024 x 768

Percentage Compliant

- 0%-24%
- 25%-49%
- 50%-74%
- 75%-100%

Include: ☑ Districts ☑ Non-Public Schools

Devices Meeting All Minimum Requirements / Total Devices

ORGANIZATION	TOTAL DEVICES	# DEVICES MEETING ALL MINIMUM REQUIREMENTS	% DEVICES MEETING ALL MINIMUM REQUIREMENTS
District 1 (123456)	1,500	1,000	67%
District 2 (223456)	750	325	43%
District 3 (323456)	1,000	825	83%
Non-Pub School 1 (999456)	200	150	[illegible]
Non-Pub School 2 (523456)	125	[illegible]	[illegible]0%
Non-Pub School 3 (999456)	200	15[illegible]	75%
Non-Pub School 4 (523456)	125	7[illegible]	60%
Non-Pub School 5 (999456)	200	50	25%
Non-Pub School 6 (523456)	125	75	60%
Non-Pub School 7 (999456)	200	150	75%

SAMPLE DATA

Technology Readiness Tool

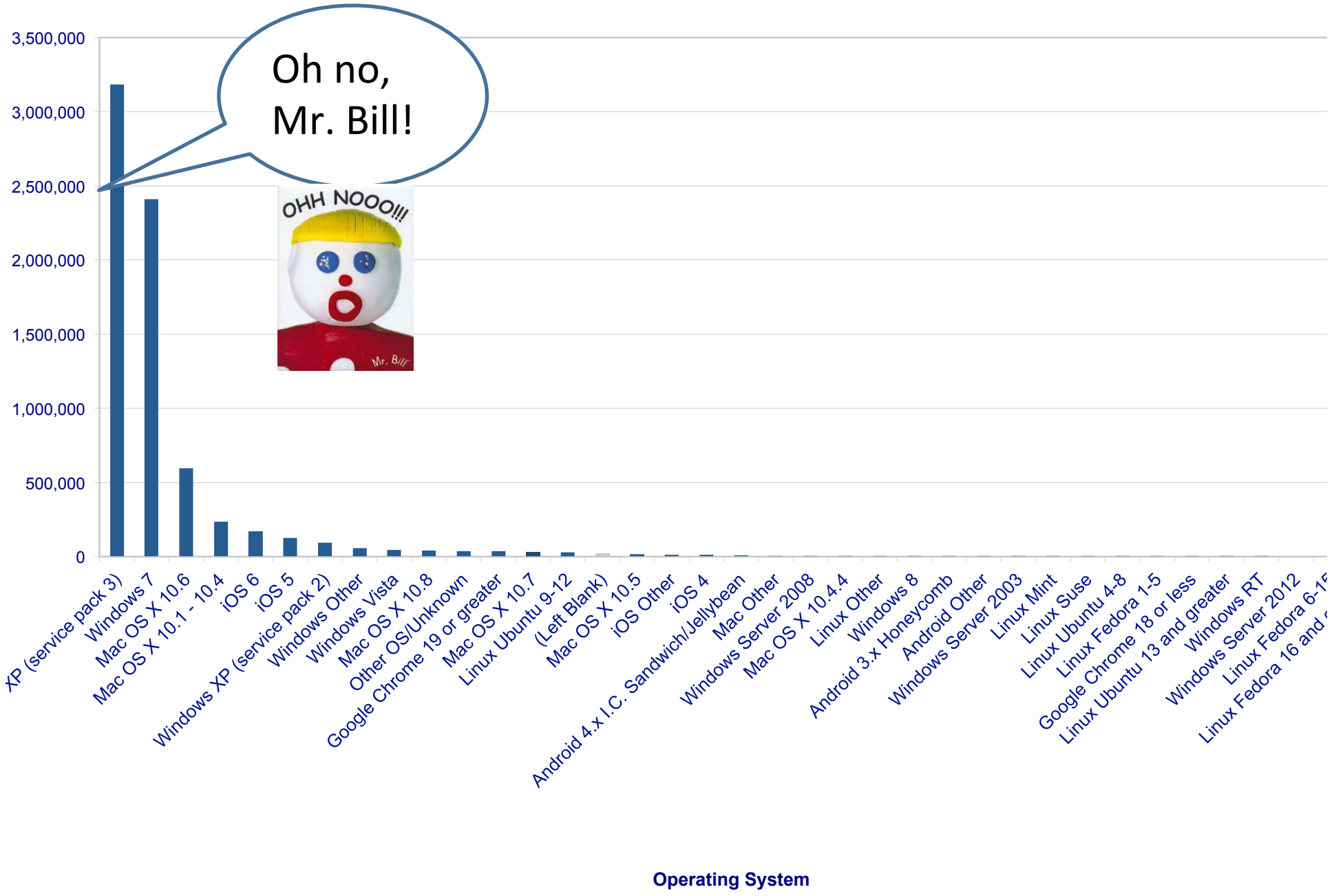
Technology Readiness Tool Goals

- Assist states, districts and schools in evaluating their own readiness and creating specific strategies to address local needs
- Inventory baseline level of technology and supporting infrastructure currently residing in schools
- Data to inform for technical platform architecture and assessment designs
- All states are defining and evaluating readiness in same way

Use of Tech Readiness Data

- Ultimate intention as **gap analysis** tool
- First Data Collection Windows served as **baseline inventory**
- Some parameters are still unknown (bandwidth requirements). Better calculations available Fall 2013.
- Exercise of data gathering as driver for state and LEA readiness planning conversations

Operating Systems Statistics



PARCC Consortium Statistics

	July 2012	February 2013
Number of states participating in collection	17	19
Number of schools reporting data	25,776	28,977
Number of devices reported	3,717,290	4,214,100
Devices meeting minimum specs	--	1,891,910 (45%)
Devices meeting recommended specs	--	1,171,663 (28%)
Average % of schools meeting recommended bandwidth specs	--	23%

Number of Schools Reporting Data

State	Schools reporting data	
	July 2012 (records created)	February 2013
Arizona	838	1,424
Arkansas	472	769
Colorado	-	548
District of Columbia	-	19
Florida	73	1,351
Georgia	2,292	2,208
Illinois	-	3,773
Indiana	1,974	1,702
Louisiana	1,541	1,310
Maryland	1,302	1,183
Massachusetts	1,822	1,622

State	Schools reporting data	
	July 2012 (records created)	February 2013
Mississippi	708	802
New Jersey	2,680	2,513
New Mexico	-	608
New York	6,221	3,712
Ohio	1,607	1,840
Oklahoma	1,744	1,521
Rhode Island	293	294
Tennessee	1,400	1,505
Kentucky	-	-
North Dakota	465	273
Pennsylvania	-	-
Virgin Islands	-	-

Number of Devices Reported

State	Devices Reported	
	July 2012	February 2013
Arizona	126,599	239,218
Arkansas	68,734	123,107
Colorado	-	47,286
District of Columbia	-	-
Florida	115,781	164,680
Georgia	1,378,797	723,372
Illinois	-	438,266
Indiana	257,758	251,600
Louisiana	172,971	229,690
Maryland	168,516	168,592
Massachusetts	477,789	248,123

State	Devices Reported	
	July 2012	February 2013
Mississippi	53,875	75,918
New Jersey	325,362	378,339
New Mexico	-	59,216
New York	32,846	383,947
Ohio	201,055	264,840
Oklahoma	98,364	110,292
Rhode Island	49,153	48,179
Tennessee	167,630	242,147
Kentucky	-	-
North Dakota	13,438	17,288
Pennsylvania	-	-
Virgin Islands	-	-

PARCC

Partnership for Assessment of Readiness for College and Careers (PARCC)

Assessment Capacity Planning Tool

Release Version 1: March 5, 2013

PLEASE NOTE: **This document is for planning purposes only, to provide estimated values of high level assessment capacity calculations. The estimated specifications and other assumptions used in this tool are subject to change.**

Input fields to be completed by school

Background data values and/or interim calculations

Calculated capacity planning data

Please refer to the Assumptions Tab and the Users' Guide to the Assessment Administration Capacity Planning Tool for more information and assistance in using and interpreting the Planning Tool.

ENTER YOUR SCHOOL DATA

STUDENTS

Enter Student Population Estimates for the 2014-2015 School Year:

Grade	Total population
3	
4	
5	
6	
7	
8	
9	
10	
11	
TOTAL	0

		PARCC RULE OF THUMB:							
		Students per device based on data entered by the school		At the largest grade level: 2 students per device		At the largest grade level: 1 student per device		1 Student per device for all tested students	
				(Recommended for schools with one, two, or three tested grades)		(Recommended for schools with more than three tested grade levels)			
		Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment
Devices	Students per device for all tested grades	10	10	8	8	4	4	1	1
	Estimated Devices Needed for This Model			62	62	124	124	484	484
	Reported Available	51	51	51	51	51	51	51	51
	Additional Devices Needed to Meet Target Ratio			11	11	73	73	433	433

		20 Days	20 Days	15 Days	15 Days	10 Days	10 Days	5 Days	5 Days
		Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment	Performance-Based Assessment	End Of Year Assessment
Devices	Minimum number of devices need to support the target number of administration days	61	49	81	65	121	97	242	194
	Reported Available	51	51	51	51	51	51	51	51
	Additional devices needed to meet the target number of administration days	10	No Gap	30	14	70	46	191	143
Bandwidth	**Maximum Estimated Need (Administered Online):** Bandwidth per Test Block at Target Device Capacity (in kbps)	6100	4900	8100	6500	12100	9700	24200	19400
	Minimum Estimated								

Key Lessons

- Clear, Consistent, and Intentional Planning
- State Leadership and Support
- Intra-State Education Agency Coordination
- Clear and Ongoing Communications
- Technology for Instruction and Assessment
- One Size Does Not Fit All