



CAIR2

Moving from CAIR1 to CAIR2: What Data Exchange Submitters Need To Know

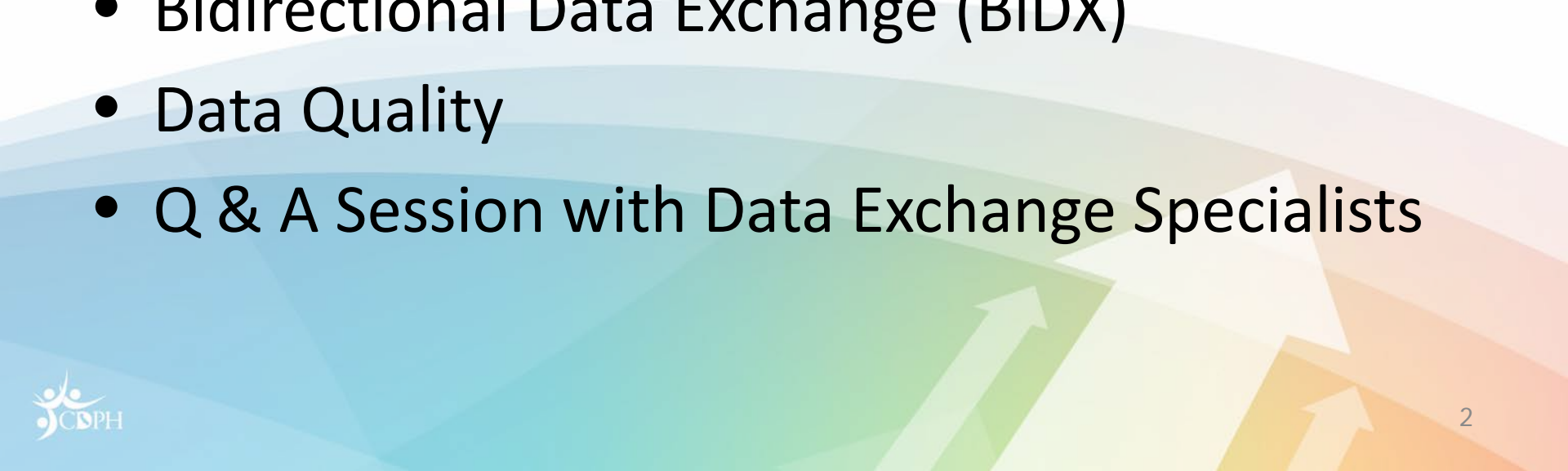
**HIE/EHR Vendor Webinar
8/31/2016**

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Topics to be Discussed:



- What is CAIR2?
 - Data Exchange Site stats
 - Moving from CAIR1 to CAIR2
 - HL7 ACK Messages
 - Bidirectional Data Exchange (BiDX)
 - Data Quality
 - Q & A Session with Data Exchange Specialists
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What is CAIR2?



A consolidated statewide registry with new state-of-the-art software

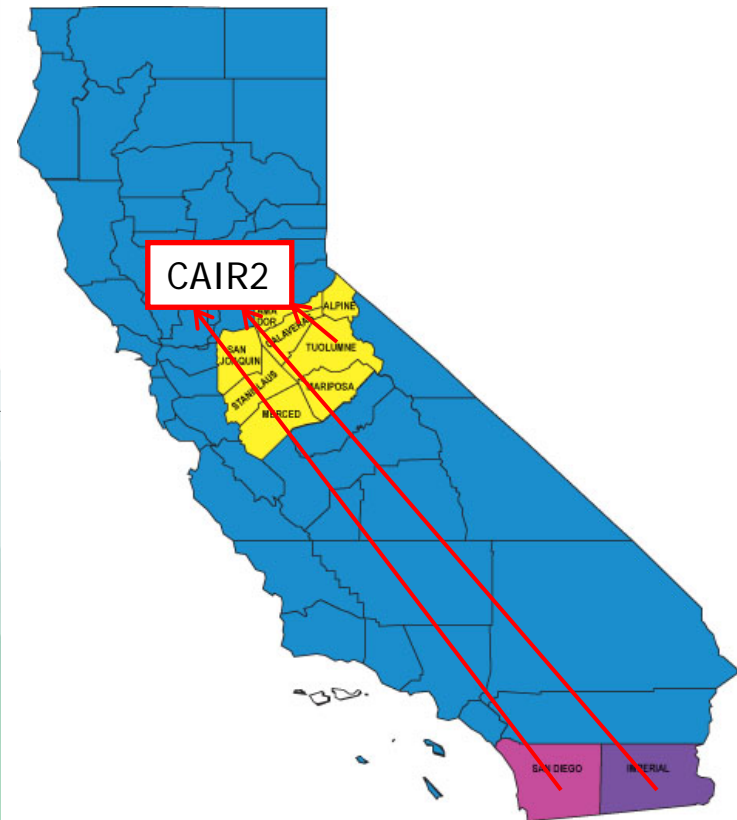
- The new software is used in 17 other states including Oregon and New York
- The consolidated registry will initially contain records from all 7 CDPH CAIR regions but later (2017) will also contain patient data from the 3 remaining independent registries (San Diego County, Imperial County, San Joaquin Valley)

The California Immunization Registry (CAIR) System: Soon to be Statewide!




804

APRIL 2008



CAIR 7 – Data Exchange Sites *



Site Type	All Sites	Data Submission Status	
		# Testing	# 'Production'
EHR → CAIR	703	548	155
EHR → HIE → CAIR	5,760	969	4,791
Totals	6,463	1,517	4,946

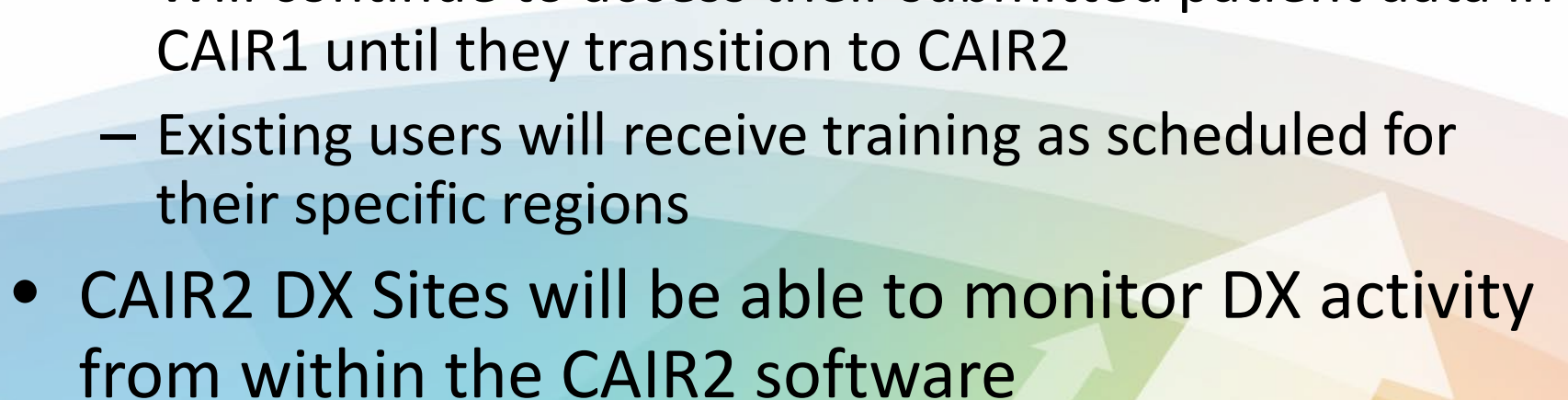
* 'CAIR 7' only. As of 8/30/2016

CAIR 7 – DX: Top 25 EHRs

Rank	EHR	# of Sites	% of All Sites	Cumulative %
1	Epic	1,079	26.6%	26.6%
2	NextGen	675	16.7%	43.3%
3	Allscripts	381	9.4%	52.7%
4	eClinicalWorks	336	8.3%	61.0%
5	Practice Fusion	332	8.2%	69.2%
6	Office Ally	208	5.1%	74.3%
7	Athenahealth	189	4.7%	79.0%
8	Cerner	176	4.3%	83.3%
9	e-MDs	61	1.5%	84.8%
10	Elation EMR	55	1.4%	86.2%
11	McKesson	50	1.2%	87.4%
12	Meditech	47	1.2%	88.6%
13	Falcon	37	0.9%	89.5%
14	GE	27	0.7%	90.2%
15	Amazing Charts	25	0.6%	90.8%
16	Adaptamed EMR	23	0.6%	91.4%
17	ChoiceOne EHR Inc.	23	0.6%	91.9%
18	Office Practicum	23	0.6%	92.5%
19	Optum	22	0.5%	93.0%
20	CSPI	18	0.4%	93.5%
21	Meditab	18	0.4%	93.9%
22	SuccessEHS	17	0.4%	94.3%
23	CARE360	16	0.4%	94.7%
24	Greenway	15	0.4%	95.1%
25	InSync	14	0.3%	95.5%




CAIR2 – *Data Exchange (DX) Sites*




- All DX sites will begin submission to CAIR2 on the Phase 1 switchover date (October 3, 2016)
 - DX sites in Phase 2 and 3 regions (Bay Area, Central Valley, Los Angeles-Orange):
 - Will continue to access their submitted patient data in CAIR1 until they transition to CAIR2
 - Existing users will receive training as scheduled for their specific regions
 - CAIR2 DX Sites will be able to monitor DX activity from within the CAIR2 software
- 

CAIR2- Data Synchronization During Phased Transition

CAIR Group	Region	Data Synchronization				
		Oct 3 rd 2016 → Dec 5 th 2016	Dec 5 th 2016 → Mar 6 th 2017	Mar 6 th 2016 → Data sharing w/ 3 ind	→ Future	
CAIR 7	NorCal Gr. Sac C. Coast I. Empire	CAIR2				
	Bay Area C. Valley					←→
	LA-Orange					←→
3 'indep.'	San Joaquin San Diego Imperial				→	

-  CAIR1 manually-entered data: CAIR1 → CAIR2 (<72 hr. delay)
-  CAIR2 DX submitted data: CAIR2 → CAIR1 (<72 hr. delay)
-  Ongoing: 3-indep. regs → CAIR2 (1 wk delay)

CAIR1 to CAIR2 – Changes



Component	CAIR2 Change	Highlights
SOAP Transport	CAIR2 will have new URL/web address	<ul style="list-style-type: none">• Replace current <u>CAIR WSDL</u> with new <u>CAIR2 WSDL</u>
HL7 message specifications	Updating to HL7 2.5.1, Release 1.5 Specifications (2014)	<ul style="list-style-type: none">• Add <u>MSH-22</u> ('Sending Responsible Organization') field to messages• Use <u>RXA-11.4</u> value in <u>MSH-22</u>
<p>Changes summarized in 'Moving from CAIR1 to CAIR2' section of CAIR2 HL7 2.5.1 Data Exchange Specifications at CAIRweb.org</p>		
<p><u>Changes will need to be implemented for any data submissions on or after October 3, 2016</u></p>		




CAIR2 – Critical Changes Necessary to Prevent Message Rejections

Segment / Field	Data Element	CAIR1 Usage	CAIR2 Usage	Comment	If Error, Type Returned
MSH-11	Processing ID	R	R	Value must be 'P'.	Error / Message Rejection
MSH-22	Sending Responsible Organization	O	RE	<p>Value of MSH-22 should be the CAIR Site ID of the 'Sending Responsible Organization' who administered the immunization (in most cases, use the RXA-11.4 value).</p> <p>If MSH-22 is empty, the value in RXA-11.4 will be used as the 'sending responsible organization'.</p> <p>If both MSH-22 and RXA-11.4 are empty, the record will be rejected.</p>	Error / Message Rejection
PID-3.5	Patient Identifier Type Code	RE	R	<p>PID-3.5 must be present and contain one of these values: MR, PI, PN, PRN, or PT. (example PID-3 format: 12345^^EDM^MR) Empty PID-3.5 fields will cause message rejection.</p>	Error / Message Rejection

CAIR2 – Other Changes

Segment / Field	Data Element	CAIR1 Usage	CAIR2 Usage	Comment	If Error, Type Returned
PID-25	Birth Order	O	C(R/O)	If PID-24 is valued with a 'Y', indicating patient was part of a multiple birth in CAIR2, PID-25 must contain the birth order number (1, 2, etc.)	Warning
PD1-3	Patient Primary Facility	RE	O	This field is now ignored	None
PV1	Patient Visit Segment	RE	X	The PV1 segment is now ignored	None
NK1-1	Set ID	O	R	If Set ID not sent or is an invalid value, the NK1 segment will not process.	Warning is sent and NK1 segment not inserted if NK1-1 is empty.
RXA-5	Administered Code	R	R	In addition to CVX codes, NDC codes are now accepted.	Error / RXA segment not inserted
RXR-1	Route of Administration	RE	RE	FDA NCI Thesaurus (NCIT) values now accepted in this field. (Route codes from HL7-defined Table 0162 are still accepted).	Warning sent if invalid codes are submitted.

CAIR2 – New WSDL



Date	What Happens?	Access?
September 1 st 2016	CAIR2 'Test' Environment opens for CAIR2 message pre-testing	CAIR2 Test WSDL: Contact CAIRDataExchange@cdph.ca.gov for URL
September 30 th 2016; 6 PM	Current CAIR turned off	Stop submitting : https://igs.cdph.ca.gov/submit/client_Service.wsdl
October 3 rd 2016; 8 AM	CAIR2 goes live for DX submitters	CAIR2 WSDL (production) Contact CAIRDataExchange@cdph.ca.gov for URL

CAIR2 – Access to ACK Messages



- Email error notifications will no longer be sent
- For each HL7 message received, CAIR2 will return an HL7 ‘acknowledgement’ message (ACKs) to the submitter to assist in data quality monitoring
 - ACKs indicate whether the message was accepted or rejected, and if there were errors, what data elements were involved so the patient data or message can be corrected
 - Since most EHR data sent to CAIR is sent via a Sending Facility, SFs should return these ACKs to each DX data owner Sites

CAIR2 - ACK Message Structure



- Segments
 - *MSH* (*Message Header*)- same as VXU
 - *MSA* (*Message Acknowledgment code*)
 - *MSA-1* (*Ack Code*)
 - ‘AA’ (*Accepted*)
 - ‘AE’ (*Error, but accepted= ‘warning’*)
 - ‘AR’ (*Error, rejected*)
 - *MSA-2* (*Message Control ID*)
 - Corresponds to *MSH-10* (*Message Control ID*) in submitted VXU
 - *ERR* (*Error segment*)
 - *ERR-2* (*Error Location, e.g. Segment, field*)
 - *ERR-3* (*HL7 Error Code, see Table HL7 0357*)
 - *ERR-4* (*Severity: “E” if rejected, “W” if warning*)
 - *ERR-8* (*User Message*) – description of error

CAIR2 - ACK Message Examples

VALID MESSAGE

MSH|^~\&|CAIR IIS4.0.0|CAIR IIS||DE-000001|20160630||ACK^V04^ACK|1791129|P|2.5.1|||CAIR IIS|DE-000001
MSA|AA|1791129

REJECTED MESSAGE (System Error)

MSH|^~\&|CAIR IIS4.0.0|CAIR IIS||DE-000001|20160630||ACK^V04^ACK|1791129||2.5.1|||CAIR IIS|DE-000001
MSA|AR|1791129

ERR||MSH^1^11|202^Unsupported processing ID^HL70357|E|4^Invalid value^HL70533||MESSAGE REJECTED. INVALID PROCESSING ID. MUST BE 'P'

REJECTED MESSAGE (Formatting error)

MSH|^~\&|CAIR IIS4.0.0|CAIR IIS||DE-000001|20160630||ACK^V04^ACK|1791129|P|2.5.1|||CAIR IIS|DE-000001
MSA|AR|1791129

ERR||PID^1^3^0|101^Required field missing^HL70357|E|6^Required observation missing^HL70533||MESSAGE REJECTED - REQUIRED FIELD PID-3-5 MISSING

CAIR2 - ACK Message Examples



ACCEPTED MESSAGE ('warning', informational)

MSH|^~\&|CAIR IIS4.0.0|CAIR IIS||DE-000001|20160630||ACK^V04^ACK|17911291|P|2.5.1|||||||CAIR IIS|DE-000001
MSA|AE|1791129

ERR||RXA^1^10^1^13|0^Message accepted^HL70357|W|5^Table value not found^HL70533|||Informational error - No value was entered for RXA-10.13



CAIR2 – HL7 ACK Message



- Any errors should be addressed, even if message accepted
- See page 38 of the CAIR2 guide for details on the ACK format.

CAIR2 – Accessing ACK Messages



- If your EHR system cannot receive and display returned ACK messages, Sites can monitor data exchange messaging via the ‘Check Status’ functionality in CAIR2
- Available to CAIR2 ‘Power’ users at software launch in each region
- ‘Data Exchange Quality Assurance’ (‘DX QA’) user role to be added soon



CAIR2 – Access to ACK Messages



- If your Site does not currently have a ‘Power’ user, go to the CAIR Account Update site and add a new ‘Power’ user
- Trainings of new CAIR2 users will not begin until the CAIR2 software has launched in each region



CAIR2 – *Post-Launch DX Monitoring*



- DX Sites in regions that won't have access to the ACKs or the CAIR2 software on October 3rd 2016 (Bay Area, Central Valley, LA-Orange) will be alerted by CAIR DX staff if they experience elevated message rejection rates (>3%) during the phased software transition period.




CAIR2 – Requirements for Inventory Decrementing



- In order for the inventory to decrement correctly in CAIR2:
 1. Inventory with matching lot number and funding source need to exist in CAIR2,
 2. The following fields in the RXA and OBX segment of the HL7 message must be populated accurately.

See details on page 29 of CAIR2 Specs.

CAIR2 – Requirements for Inventory Decrementing



Segment / Field	Data Element	Comments
MSH-22	Responsible Sending Org	CAIR site ID in MSH-22, must match the CAIR site ID of the site where the vaccine inventory will be drawn from.
RXA-9	Administered Notes	Must be coded as a given shot. Not historical.
RXA-11.4	Administered-at Location	CAIR site ID in this field must match the CAIR site ID in MSH-22.
RXA-15	Substance Lot Number	Vaccine lot number sent must match lot number in CAIR2 inventory
RXA-20	Completion Status	Must be 'CP', 'PA', or empty.
RXA-21	Action Code	Must be 'A' or 'U'
OBX-5	Observation Value	VFC Funding Eligibility Category sent in this field must match with the funding category of the vaccine lot in the CAIR2 inventory

CAIR2 – Bidirectional Data Exchange (BiDX)



Query for Record
Looking to see what is due to give today.



Update Vaccination History
Recording in IIS what was given today.



Immunization Information System (IIS)

Query for Record

Looking to see what is due to give today.

Update Vaccination History

Recording in IIS what was given today.

OBP

Query

Full History + Forecast

RSP

VXU

Update

Acknowledge

ACK



CAIR2 – *BiDX* Timeline



- **Nov-Dec 2016**

- ‘Beta’ test – handful of sites (large), monitor system performance
- Require interested Sites to complete online *BiDX Interest/Readiness Survey*

- **April 2017**

- Begin BiDX ‘testing’ as self-directed process using dummy patients in CAIR2
- Approve sites for BiDX when sites confirm that EHR has accurately displayed returned patient data

CAIR2 - Maintaining Data Quality

To ensure the data in CAIR is accurate for all providers using CAIR, sites with EHR systems sending data to CAIR should make sure staff at the site:

- Enter accurate and complete patient demographic and shot information into the EHR.
- Work with vendor or staff to resolve any data accuracy or integrity issues.
- Monitor DE submissions to CAIR on an ongoing basis to ensure continuity and accuracy.



Steps for HIEs/Vendors to take prior to October 3, 2016



- Reconfigure HL7 message as noted in the CAIR2 Specs and if desired, send messages to the test environment using the **CAIR2 Test WSDL**
 - The CAIR2 ‘Test’ environment will go-live September 9, 2016
- Ensure ongoing data quality
 - Resolve any current problems
 - Plan to begin monitoring Acknowledgement (ACK) messages after 10/3

CAIR2 – DX FAQs



- When will **CAIR1** go offline for DX submitters?
 - CAIR1 will go offline on Friday, September 30th, at 6:00 PM PDT
- When will **CAIR2** go live for DX submission?
 - CAIR2 will go live on Monday, October 3rd, at 8:00 AM PDT
- Will CAIR queue incoming messages during the transition time?
 - No, CAIR asks that the data submitters hold messages in their queue from Friday, September 30th 6:00 PM until Monday, October 3rd 8:00 AM.



CAIR2 – FAQs



- Do all clients need to move to the new WSDL?
 - Yes, the current CAIR system will be shut down on September 30th 2016 and all DX Sites must begin using the new production [CAIR2 WSDL](#) to submit data to CAIR2 on October 3rd 2016.
Note: if you have used the [CAIR2 TEST WSDL](#), to send test messages make sure you change back to the [CAIR2 WSDL](#) before submitting messages on October 3rd 2016.
- Will my credentials used in the SOAP header change?
 - No. Your username, password, and facility ID will remain the same. Only the submission endpoint is changing.
- What happens to my CDPH Client Certificate?
 - Client certificates are no longer needed when connecting to CAIR2



CAIR2 – FAQs



- Do all providers need to use the inventory decrementing feature?
 - No, managing vaccine inventory using CAIR2 is optional.
- Why must the MSH-22 be sent now?
 - CAIR2 is conforming to the CDC HL7 Version 2.5.1: Implementation Guide for Immunization messaging, Release 1.5 specifications.
- Do I still need to include the CAIR Region code in the MSH-6 field?
 - Yes. Use of the region code in the MSH-6 will not be phased out until all regions transition to CAIR2 (April 2017).

Helpful CAIR2 Resources

- CAIR2 Project page at *cairweb.org*:
 - [CAIR2 HL7 Specs](#)
 - [CAIR2 Test Plan](#)
(SOAP/WSDL setup for new submitters)
 - FAQs
 - CAIR2 Launch Timeline



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CAIR California Immunization Registry
Connected & Protected

The California Immunization Registry (CAIR) is a secure, confidential, statewide computerized immunization information system for California residents.

We're moving together to CAIR2
Bigger Better Faster

[Find out more about the CAIR2 Project.](#)

- ▶ **Pharmacies and CAIR**
[Learn more](#) about how pharmacies can report immunizations to CAIR.
- ▶ **CAIR IZ Portal – Please Login Now to Update Your Site Information!**
So CAIR can continue to communicate with your data exchange Site, please login to the [CAIR IZ Portal](#) and update your Site info.
- ▶ **CAIR Enrollment/Account Management is Now Online!** [Learn more »](#)
 - To register for electronic data submission, go to the [CAIR IZ Portal](#)
 - To enroll in CAIR to get web access, register at [CAIR New Enrollment](#)
 - To update your Account/ add Users, go to [CAIR Account Update](#)

Questions?



- CAIRDataExchange@cdph.ca.gov



CAIR2

Moving from CAIR1 to CAIR2:

Q&A Session

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