CCC Data: Connecting Colleges with Data
CISCOA Virtual Technology Summit
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Supported by the Data Services Program (DSP) initiative from the California Community Colleges Chancellor's Office, CCC Data provides our Colleges with access to critical data used to support institutional decision-making aligned with the CCCC0 Vision for Success.
Agenda

• Overview
• Flow of Data
• Available Data Sources
• Accessing the Data Warehouse
• Project Update
• Stakeholder Engagement
• Next Steps
• Discussion
### CCC Data Overview

#### Data Pipelines
- Several proven methods available to integrate data with CCC Data
- Extract, Transform, and Loads data
- Runs nightly (or more frequently)

#### CCC Data Warehouse
- Structured source of master data segmented by MIS code
- Connects data to generate reports and analytics for end-users
- Built on Amazon AWS Redshift

#### CCC Data Lake
- Collects data, preserving changes
- Used to power Data Warehouse, Data-Marts, and analytics
- Built on Amazon AWS S3

#### Data Warehouse Connections
- Colleges may connect local BI/analytics tools or use the DW Report Server
  - Direct (ODBC/JDBC) Connection
  - CCC Data Report Server
Available Data Sources

- CCC Apply Credit & Noncredit Application
- CCC Apply International Application
- CCC Apply Promise Grant
- Multiple Measures/MMPS (placement data)
- MyPath (usage data)
- Canvas (learning analytics)
- COCI (courses and programs)
- C-ID (articulations)
- CCCCCO-MIS
- Cal-Pass+ (K-12)
- Launchboard
- NOVA

Availability: Available to colleges 20/21, Availability pending governance, In progress/pending governance
CCC Data Platform

Data Sources

Data Pipelines

CCC Data Lake (S3)

CCC Data Warehouse (Redshift)

Optional CCC DW Report Server (Jasper)

DW Direct Connect (ODBC/JDBC access)

Data Sources

CCC Data Platform

Data Pipelines

CCC Data Lake (S3)

CCC Data Warehouse (Redshift)

Optional CCC DW Report Server (Jasper)

DW Direct Connect (ODBC/JDBC access)
Accessing the CCC Data Warehouse

CCC Data available to approved college and district staff, through:

- Accessing the CCC Data Warehouse
- Direct Connection (ODBC/JDBC)
- Data Warehouse Report Server (Jaspersoft)
CCC Data: Direct Connect

- Supports colleges and district offices connecting data in the CCC Data Warehouse, with:
  - Available BI/analytic applications, such as Tableau and Power BI,
  - SQL Workbench for direct queries
  - Local data warehouse, connected as external tables

- Connection requires:
  - Installation of custom site-to-site VPN
  - Data Warehouse log-in credentials
CCC Data: DW Report Server
Accessing the DW Report Server
DW Report Server - Creating Reports
DW Report Server - Creating Reports
### DW Report Server - Creating Reports

![Image of the DW Report Server interface](image-url)

**TIBCO Jaspersoft**

**Library** | **Create**
---|---
**New Ad Hoc View**

#### Fields

- College ID
- Citizenship Status
- Academic Counseling
- CA Foster Youth
- Comfortable English

#### Measures

- Cal Works
- Career Planning
- Child Care
- Comfortable English
- Counseling Personal
- DSPS
- Employment Assistance
- EOPS

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**Click to add a title**

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DW Report Server - Creating Reports
DW Report Server - Creating Reports
Requesting Access

Approved College/District Access

• Request made to: CRMs@ccctechcenter.org

Chancellor's Office Access:

• Request made to: mcohen@ccctechcenter.org
• Approval by: Barney Gomez, Vice Chancellor for Digital Innovation & Infrastructure
Project Update: 2020/2021 Priorities

• New data sources to Data Lake & Data Warehouse, aligned with CCCCO priorities and guidance from the Data Warehouse Advisory Group
• Support colleges with appropriate access to the Data Warehouse & DW Report Center
• Update CCC Data access controls per revised CCCCO policies
• Focus on Maintenance & Operations
  • Updates to DL/DW data sources as necessary
  • Upgrade Jaspersoft DW Report Server
  • Technical debt and enhanced security
Project Update: CCC Data 1.4

CCC access to Data Warehouse Report Server, with access to:
- CCCApply: Application (includes Non-Credit App)
- CCCApply: International Application
- CCCApply: College Promise
- Multiple Measures Placement Service (MMPS)
- LGBTQ data and report

Production deploy Aug. 27 2020
Project Update: CCC Data 2.0

Data Warehouse Report Server

Data Sources

Apply App
Apply International App
Apply Fee Waiver
Multiple Measures (MMPS)
LGBTQ Data & Report

Data Warehouse Direct Connection (ODBC/JDBC)

CCC Data 1.4.1
Production: August 27, 2020

CCC Data 2.0
Pilot: Oct 2, 2020
Prod: Jan 15, 2021
Project Update: CCC Data 2.0

Data Sources

Direct (ODBC/JDBC) access to DW, to include CCC access to:
- CCCApply: Application (includes Non-Credit App)
- CCCApply: International Application
- CCCApply: College Promise
- Multiple Measures Placement Service (MMPS)

Pilot: October 2020, Production January 2021
Project Update: CCC Data 2.1

Data Warehouse Report Server

Data Sources
- Apply App
- Apply International App
- Apply Fee Waiver
- Multiple Measures (MMPS)
- LGBTQ Data & Report
- COCI
- MyPath
- Canvas (college approved)

CCC Data 1.4.1
Production: August 27, 2020

CCC Data 2.0
Pilot: Oct 2, 2020
Prod: Jan 15, 2021

CCC Data 2.1
Pilot: Q3 2020/21
Prod: Q3 2020/21
Project Update: CCC Data 2.1

Data Sources

New data sources in DWRS & direct DW access:
- Canvas (as opted-in by individual colleges)
- MyPath
- COCI

New data sources in DL & made available to CCCC0
- Nova
- Launchboard

DWRS CVC-OEI enrollment report
Pilot: FY 20/21 Q3 - Production FY 20/21 Q3
Project Update: CCC Data 2.2

Data Sources
- Application
- Apply International App
- Apply Fee Waiver
- Multiple Measures (MMPS)
- LGBTQ Data & Report
- COCI
- MyPath
- Canvas (college approved)
- C-ID

CCC Data 1.4.1
- Production: August 27, 2020

CCC Data 2.0
- Pilot: Oct 2, 2020
- Prod: Jan 15, 2021

CCC Data 2.1
- Pilot: Q3 2020/21
- Prod: Q3 2020/21

CCC Data 2.2
- Pilot: Q3 2020/21
- Prod: Q3 2020/21

Data Warehouse Report Server

Data Warehouse Direct Connection (ODBC/JDBC)

Apply App
Apply International App
Apply Fee Waiver
Multiple Measures (MMPS)
LGBTQ Data & Report
COCI
MyPath
Canvas (college approved)
C-ID

Infrastructure

Jaspersoft 7.X upgrade, SSO support, and password reset
Technical debt: Support for dev, testing, and staging environments, Pipeline refactoring
Project Update: CCC Data 2.2

Jaspersoft 7.X upgrade
C-ID data in DW Report Server and direct DW access
SSO support and password reset for DWRS
Technical debt, which may include:
- Support for development, testing, and staging environments
- Pipeline refactoring to AWS recommendations
Pilot: FY 20/21 Q3 - Production FY 20/21 Q3
Project Update: CCC Data 2.3

Data Sources

- CCC Data 2.0
  - Pilot: Oct 2, 2020
  - Prod: Jan 15, 2021
- CCC Data 1.4.1
  - Production: August 27, 2020
- CCC Data 2.1
  - Pilot: Q3 2020/21
  - Prod: Q3 2020/21
- CCC Data 2.2
  - Pilot: Q3 2020/21
  - Prod: Q3 2020/21
- CCC Data 2.3
  - Pilot: Q4 2020/21
  - Prod: Q4 2020/21

Data Warehouse Report Server
- Apply App
- Apply International App
- Apply Fee Waiver
- Multiple Measures (MMPS)
- LGBTQ Data & Report
- COCI
- MyPath
- Canvas (college approved)
- C-ID
- MIS (1)
- NOVA (1)
- Launchboard (1)

Data Warehouse Direct Connection (ODBC/JDBC)

Infrastructure
- Jaspersoft 7.X upgrade, SSO support, and password reset
- Technical debt: Support for dev, testing, and staging environments, Pipeline refactoring
- Update authorization and authentication structures as necessary per CCCCO requirements
- Updates to reflect changes in data sources as necessary

1. Availability to colleges pending coordination with CCCCO data governance
Project Update: CCC Data 2.3

MIS, NOVA, and Launchboard data to the Data Warehouse

Update authorization and authentication structures as necessary per CCCC0 requirements

Updates to reflect changes in data sources as necessary

Pilot: FY 20/21 Q4 - Production FY 20/21 Q4

Data Sources

- Data Warehouse Direct Connection (ODBC/JDBC)
- Data Warehouse Report Server

Infrastructure

- Jaspersoft 7.X upgrade, SSO support, and password reset
- Technical debt: Support for dev, testing, and staging environments, Pipeline refactoring
- Update authorization and authentication structures as necessary per CCCC0 requirements
- Updates to reflect changes in data sources as necessary

1. Availability to colleges pending coordination with CCCC0 data governance
Stakeholder Engagement

- Data Warehouse Advisory group made up of
  - CCC Institutional Research, Planning and Effectiveness Professionals (identified by the RP Group)
  - Chancellor's Office stakeholders

- Meets monthly to:
  - Inform and help to prioritize requirements for how college connect and leverage data
  - Recommend system and college data sources for inclusion in CCC Data
## Prioritizing Potential Data Sources

<table>
<thead>
<tr>
<th>Data</th>
<th>Business Need</th>
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<tbody>
<tr>
<td>MIS data</td>
<td>Support compliance with SCFF, validation of formula results</td>
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<tr>
<td>Student Centered Funding Formula (SCFF)</td>
<td>Support compliance with SCFF, validation of formula results and Student Success Metrics results</td>
</tr>
<tr>
<td>EDD Unemployment Insurance Wage File</td>
<td>Critical data aligned with desired outcome or employment</td>
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<tr>
<td>UC (cohort match)</td>
<td>Support compliance with SCFF, validate SCFF and Student Success Metrics results</td>
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<tr>
<td>Perkins</td>
<td>Access data from all funded programs</td>
</tr>
<tr>
<td>Strong Workforce</td>
<td>Access data from all funded programs</td>
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<tr>
<td>CSU (cohort match)</td>
<td>Support compliance with SCFF, validate SCFF and Student Success Metrics results</td>
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<tr>
<td>Apportionment Attendance Report (CCFS-320)</td>
<td>Support compliance with SCFF, support ability to validate of SCFF formula results</td>
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<tr>
<td>CDE</td>
<td>Validated GPA, free &amp; reduced lunch, and other data points from HS systems/reporting</td>
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<tr>
<td>Student Tracker (NSC)</td>
<td>Support compliance with SCFF, validate SCFF and Student Success Metrics results</td>
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<tr>
<td>Pell grant</td>
<td>Access data from all funded programs</td>
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<tr>
<td>Tops Pro Enterprise (CASAS)</td>
<td>WIO and I and II accountability requirements</td>
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<tr>
<td>Enterprise Resource Planning system</td>
<td>Support CCC ability to validate of Student Success Metrics formula results</td>
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<tr>
<td>Department of Apprenticeship Standards</td>
<td>Support CCC ability to validate of Student Success Metrics formula results</td>
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<tr>
<td>Insight Center for Community Econ Development</td>
<td>Support CCC ability to validate of Student Success Metrics formula results</td>
</tr>
<tr>
<td>CCGI</td>
<td>Validated GPA, free &amp; reduced lunch, and other data points from HS systems/reporting</td>
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<tr>
<td>CTE Outcome Survey</td>
<td>Support reporting to strong workforce, and ability to validate Student Success Metrics formula results</td>
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<tr>
<td>Insight Center, Self-Sufficiency Tool</td>
<td>Support compliance with SCFF, support ability to validate of SCFF formula results</td>
</tr>
<tr>
<td>DSPS</td>
<td>Access data from all funded programs</td>
</tr>
</tbody>
</table>
CCC Data Platform Extended

Data Hub
(Super Glue)

CCC Data Lake
(S3)

CCC Data Warehouse
(Redshift)

Data Marts
(Aurora)

Optional CCC Report Server
(Jasper)

BI Tool

Researcher DW
Direct Connect
(ODBC/JDBC)
Discussion

For more information
Information on CCC Data & Tech Center products: [https://ccctechcenter.org/highlights](https://ccctechcenter.org/highlights)
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CISOA Virtual Technology Summit