

C-READ (Caribbean - Regional Environmental and Atmospheric Data) Management System



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Module 1: System Overview

Bridgetown, Barbados, Oct 1, 2015

Facilitated by: David Oswald, DE Design + Environment Inc.

C-READ OUTREACH: MODULE 1 – SYSTEM OVERVIEW

C-READ REGIONAL WORKSHOP BRIDGETOWN, BARBADOS, OCT 1, 2015

C-READ – System Overview

Design Rationale:

- To be comprised of open source tools (as much as possible)
- To be able to handle data of various digital formats – geospatial, tabular, etc.
- To address functional needs determined in conceptual design process
- To be able to interface with other existing systems
- To be localized yet with a central repository

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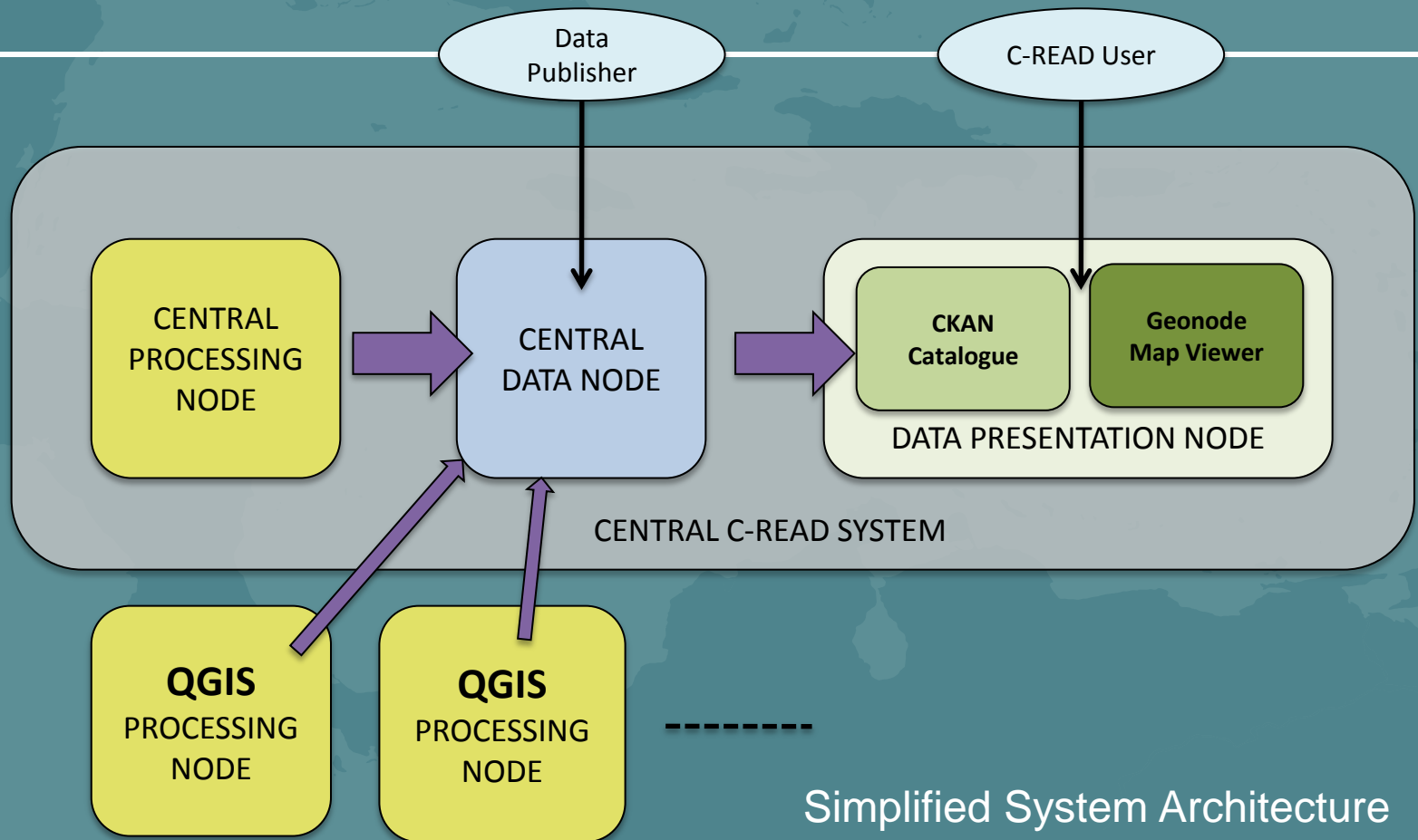
C-READ – System Overview

Simplified Architecture:

- Shows key components
- Shows inter-relationships between components
- Shows scalability of C-READ

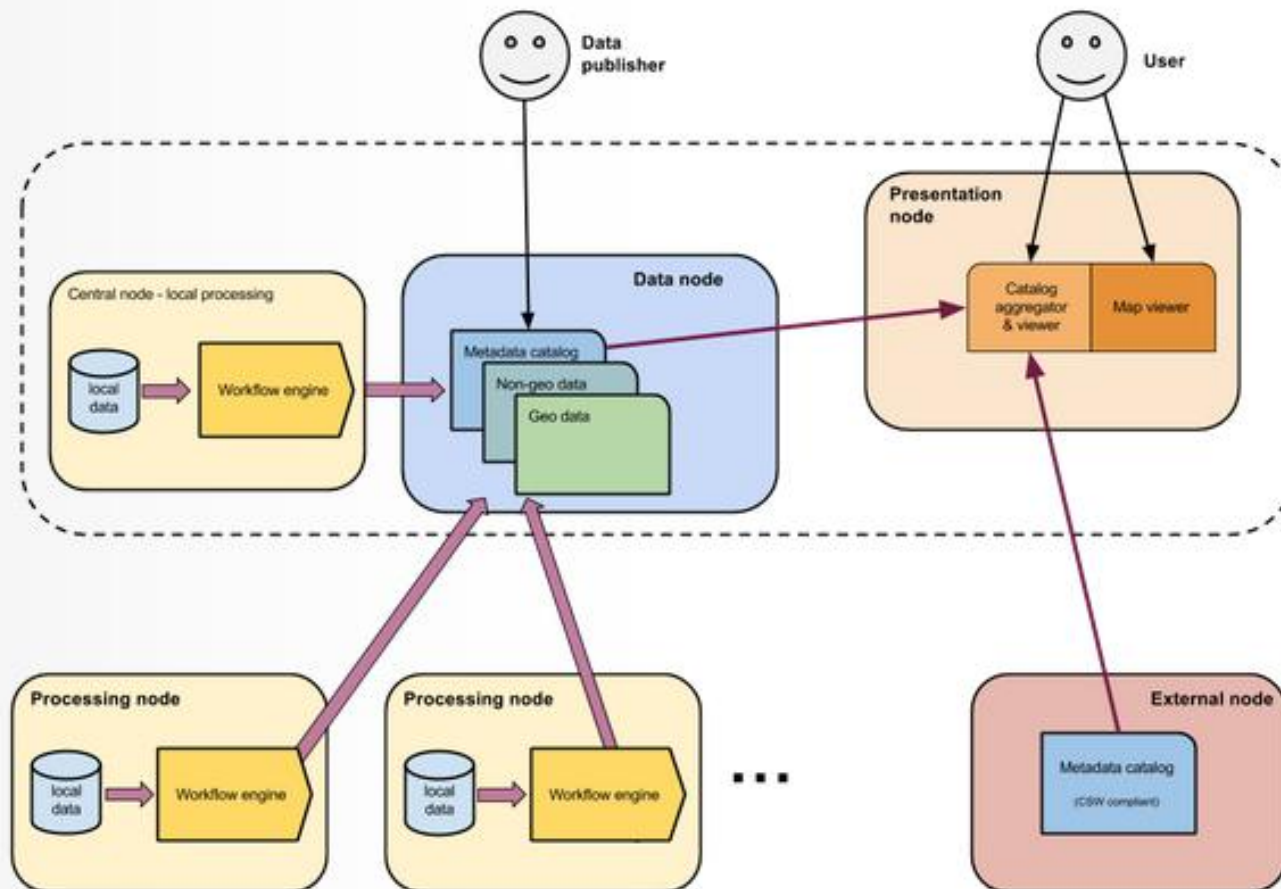
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Full System Architecture

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C-READ – System Overview

C-READ Nodes:

- Presentation Node
- Data Node
- Processing Node(s)

<http://training.cread.geo-solutions.it/sysadmin/index.html#c-read-system-overview>

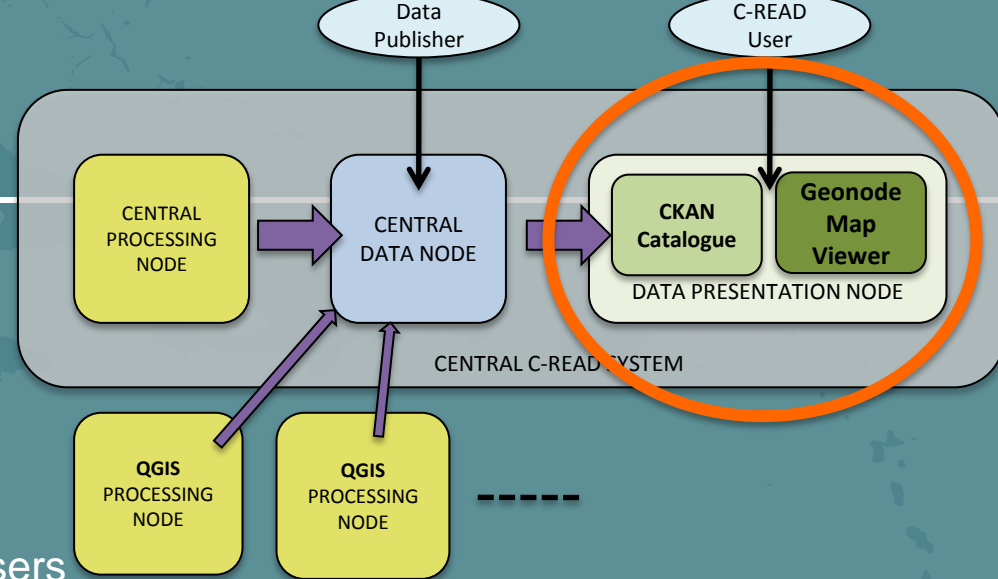
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Presentation Node:

- The front end for external users
- Provides a search interface for finding data in the Catalogue (CKAN)
- Has a map viewer for viewing Geospatial data sets
- Gathers/harvests all metadata in the various C-READ nodes and presents them to users
- This is the key access point for C-READ users who are data consumers (not providers)



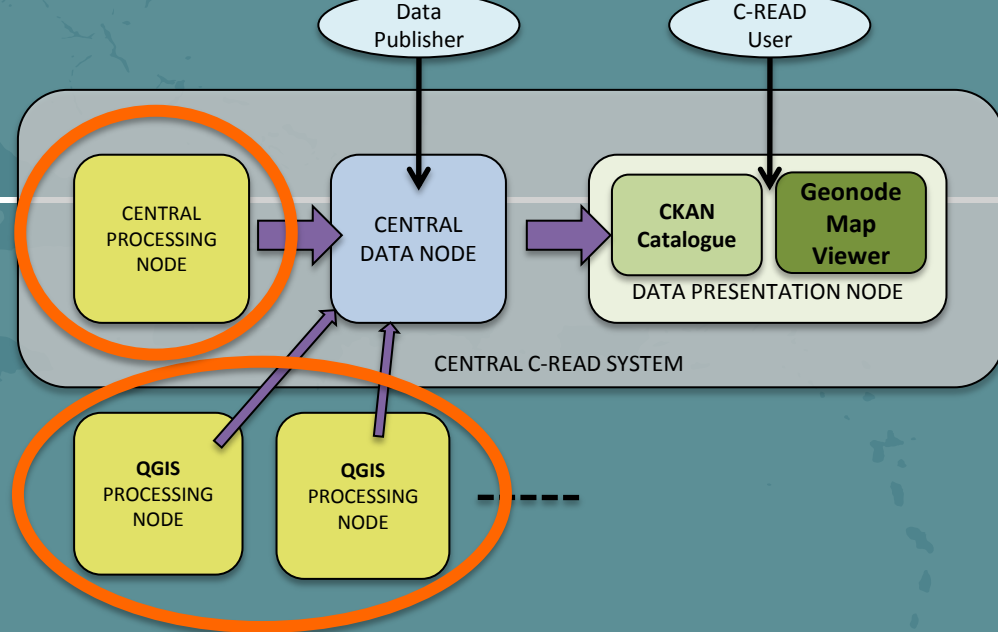
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Processing Nodes:

- Creates data to publish
- Only runs scripts to create data that will then be sent to data node to publish
- Two types: automated and attended
- *Automated*: scripts run and monitored with Jenkins (web based tool)
- *Attended*: user-driven processing run in QGIS with workflows, output to data node



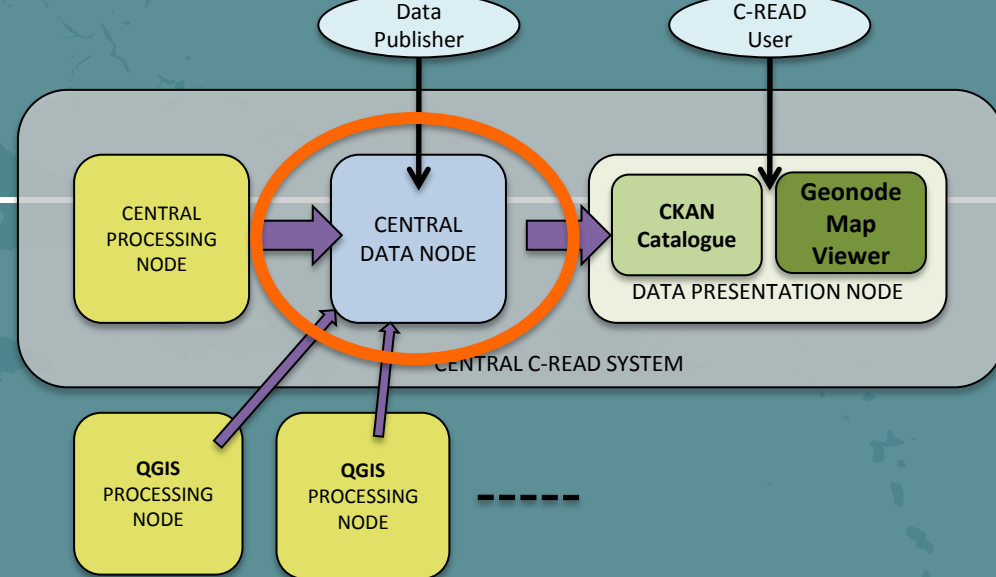
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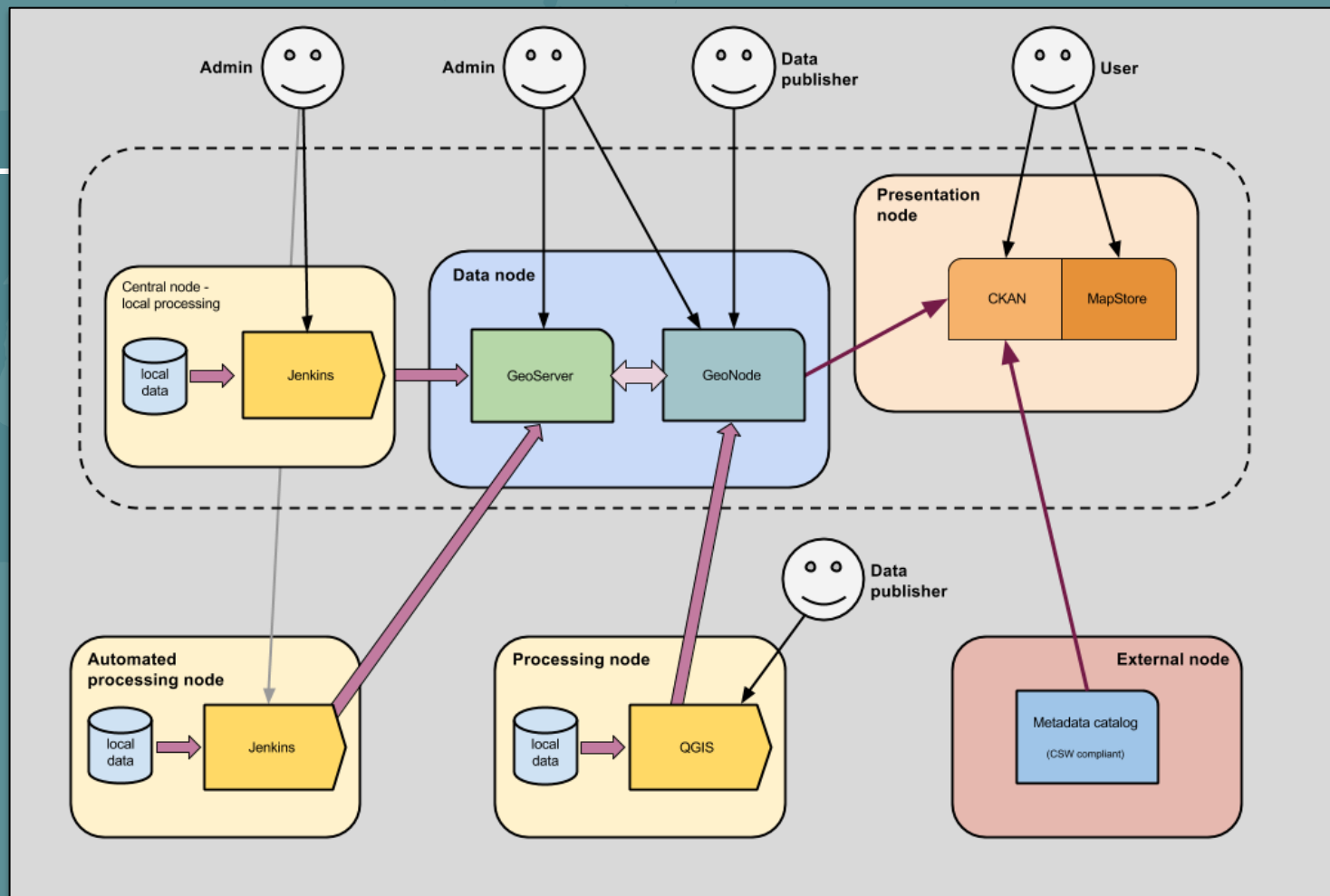
Data Node:

- Core of C-READ
- Contains all the data and meta data for the system
- Provides OGC services to retrieve the data using standard protocols
- Implemented with GeoNode and GeoServer
- GeoNode provides user friendly functions such as a catalogue feature and upload of non-geospatial data, whereas GeoServer is the 'engine' of this node



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Full System Architecture with user roles

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C-READ – System Overview

System Components:

- There are three main components from a user perspective
- C-READ Catalogue (CKAN) – for browsing and searching data
- GeoNode – for map manipulation
- QGIS – for localized data processing (attendant processing)
- Jenkins is used as well for automated, scheduled processing
- We will review these in the following sessions

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Thank You

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