### **Overview of DTC Application (LRC Craft/Admin)**

* **Purpose**: Replaces paper-based maintenance work orders and task tracking for locomotives.
* **Platforms**:  
  + **LRC Craft (iPad)**: For electricians and mechanics.
  + **LRC Admin (iPhone)**: For supervisors.
* **Access Control**:  
  + Users are assigned to AD groups based on role (electrician/mechanic/supervisor).
  + Supervisors use LRC Admin; others use LRC Craft.

### **🛠 Functional Workflow**

1. **Login & Setup**:  
   * Users login with PIN/password.
   * First-time login: select shop, job type (electrician/mechanic), language.
   * Shop assignment is fixed unless manually changed via Postman and Firebase.
2. **Locomotive Management**:  
   * Units are categorized: *Shopped*, *Stored*, *All Units*.
   * Shopped = active status ("LUSH") units needing service.
   * Users can search for units even outside their shop.
3. **Work Order & Notification Flow**:  
   * Each locomotive gets SAP-triggered *notification* (e.g., LS for preventive).
   * Work orders are created under notifications.
   * Work orders include *operations* and *sub-operations*.
   * Technicians perform tasks and *sign off* each sub-operation.
4. **Sign-Off & Comments**:  
   * Final step: technician signs off with optional comments.
   * Sign-off data syncs to Firebase and back to SAP.

### **📏 Measurements & Defects**

* **Measurements**:  
  + Can be input during operations.
  + Two types: drop-down inputs or table entry (e.g., wheel report).
* **Defects**:  
  + Can be reported via “Add Defect” function.
  + Triggers a set of questions for documentation.

### **🔄 System Architecture**

* **Data Flow**:  
  + SAP → IBM/Kafka → Microservices (on Anthos) → Firebase → DTC Application.
  + Reverse sync (e.g., sign-off) goes from App → Firebase → SAP.
* **Firebase Collections**:  
  + unit\_list – All units.
  + unit\_card\_metadata – Units assigned to the current shop.
  + profile\_config – User/shop assignment.
  + sign\_off – Sign-off records.

### **⚙️ Admin Tools**

* **Postman**:  
  + Used for shop changes, document updates.
  + Includes token-based access and CRUD operations on Firebase.
* **Certificates**:  
  + Annual renewal of Apple certificates and provisioning profiles is required.
  + Managed by L3/DevOps teams.

### **🧩 Third-Party Integration**

* **IDMR**:  
  + Displays work instructions as PDFs.
  + Business team manages content.
  + Stored and referenced from Firebase Storage.
  + Alternative to SAP’s “long text” instructions.

### **📦 Device Management**

* **Smart Lockers**:  
  + iPads are stored and charged in lockers.
  + Shared across users (unlike transportation which uses personal devices).

### **📝 Training and Documentation**

* **Cornerstone Learning Portal**:  
  + Hosts interactive training videos (e.g., DTC, EO).
  + Access managed by a team lead (Georgia).
* **Internal Notes/KBase**:  
  + Additional KBs and internal guides available in Confluence.

### **⚠️ Known Issues**

* **Error with SAP “long text” rendering**: Display issue currently being investigated.
* **IDMR content works without error**.

### **✅ Action Items / Checklist**

* Ensure access to LRC Craft/Admin apps.
* Assign correct AD groups based on roles.
* Confirm shop assignment via Postman.
* Access training via Cornerstone.
* Monitor certificates renewal annually.
* Use Firebase/Postman for troubleshooting.

### **Purpose of the Meeting**

* To review tools, support processes, access requirements, and system architecture for the **Digital Task Card (DTC)** application used for **locomotive inspection and repair**.
* Provide knowledge transfer to new team members supporting the DTC ecosystem.

### **📱 Application Overview**

* **DTC Apps**:  
  + **LRC Craft**: Used on iPads by mechanics/electricians.
  + **LRC Admin**: Used on iPhones by supervisors.
* **Primary Goal**: Complete and sign off work orders on locomotives electronically.

### **🔄 Workflow Recap**

* Users log in, select shops and job types.
* Assigned work orders contain tasks/sub-operations.
* Tasks can include measurements or defect entries.
* Final sign-off is synced back to SAP via Firebase.

### **🧩 Access & Tools**

* **Workspace ONE**: Mobile device management for iPads (Craft) and iPhones (Admin).
* **Firebase**: Stores app data like unit metadata, sign-offs.
* **Postman**: Used for:  
  + Updating user/shop assignments.
  + Managing Firebase collections.
  + Token management.
* **SAP (ASAP)**: Source of work orders and HR data.

### **🏗 System Architecture**

* **Data Flow**:  
  + SAP → IIB → Kafka → Microservices (Anthos) → Firebase → App.
* **Kafka Topics**: raw, prepare, trusted stages.
* **Microservices**: Handle logic before reaching Firebase.
* **IDMR**: Provides PDF instructions for tasks (alternative to SAP long texts).
* **Additional Platforms**: Mulesoft, PostgreSQL (DTC schema), SharePoint for app provisioning.

### **🛠 Support & Admin Notes**

* **No direct access** for L2 to modify application logic—handled by L3.
* Access provisioning and certificate renewal is L3 responsibility.
* Issues like missing PDFs or errors are documented and handled by L3 (e.g., IDMR errors).
* **Runbooks, documentation, training** (Cornerstone) shared for onboarding.

### **📦 Device & Environment Setup**

* iPads/iPhones assigned to users via smart groups in Workspace ONE.
* Non-prod vs. prod environments handled via group assignment.
* Intune used for iPhone app provisioning.

### **📝 Training, Modules & Limitations**

* DTC interactive video modules are hosted on Cornerstone.
* Access is restricted and must be assigned manually (George or designated manager).
* Users may face slow loading or app issues if Firebase/API calls lag.

### **⚠️ Challenges Noted**

* Errors with IDMR not blocking, but create user confusion.
* Some users default to SAP when DTC app is slow.
* Lack of centralized access sometimes delays testing or onboarding.
* Non-prod credential setup is inconsistent across environments.

### **📒 Miscellaneous Details**

* French support may be available depending on device language settings.
* Stakeholder contacts: Paul Hamilton (Business), Alfred (IT), IDMR contacts (Israel).
* Change management: Managed through ServiceNow (e.g., provisioning profile updates).
* Observability: Available through Anthos (used for monitoring services).
* Application tech stack includes: **Angular**, **Firebase**, **Kafka**, **Microservices**, **PostgreSQL**, **Mulesoft**, **IB (IBM Integration Bus)**.

## **Incident Review and Troubleshooting**

### **🛠 Recent DTC Incident (MetCard Shop)**

* **Issue**: DTC Craft app not downloading/working due to **weak CN Wireless signal**.
* **Troubleshooting steps**:  
  + Disconnected CN Wireless profile on device.
  + Device switched to **SIM card (Rogers carrier)** for data.
  + Temporary fix worked, but CN Wireless profile re-applies automatically.
* **Actions Taken**:  
  + Email sent to Alfred for direction: either disable CN Wireless permanently or request improved shop Wi-Fi infrastructure.
  + **Smart lockers** (used to charge/update iPads) were found broken — BSD team asked to investigate.

## **📱 DTC Workflow and Integration Details**

### **📦 Work Order Flow (RX Notifications)**

* **WebTech** sends a **PDF (RX-type)** which triggers a **notification** in SAP.
* **Mulesoft** processes the file → sends to SAP → SAP creates work order.
* Without notification, no work order can be created.
* Users can view and process work orders on iPads (LRC Craft).

## **⚙️ System Components and Tools**

### **🗃️ Architecture & Flow**

* **Architecture**: SAP → IIB → Kafka → Microservices (Anthos) → Firebase → DTC App.
* **Tools**:  
  + **Firebase**: Sign-offs, units, metadata storage.
  + **Kafka**: Messaging flow; used for topics like sign-off.
  + **PostgreSQL (PG)**: DTC schema used by Microservices.
  + **Mulesoft**: Handles RX work order creation via CSV input.

## **🧩 Monitoring & Log Analysis**

* **SG-1 (SAP)**:  
  + Used to view application logs like sign-offs, work orders, notifications.
  + Allows filtering by user PIN and date/time.
* **ADX (Analytics)**:  
  + Dashboards exist for DTC logs (e.g., Antos logs), but access is limited (Kareem manages).
* **Firebase/ADX**: Used to trace issues from app to backend.
* **Kafka**: Developers use topic monitoring to validate data sync.

## **🔍 Access & Platform Management**

* **iPads (LRC Craft)**: Managed via **Workspace ONE**.
* **iPhones (LRC Admin)**: Managed via **Intune**.
* Device-related issues (certs, app deployment) go to messaging or mobility teams.

## **📂 Admin Resources & Development**

* **SAP Transactions**:  
  + SLG1 used to view DTC logs.
  + Additional SAP access (ZPM, CRB, etc.) may be limited to specific PINS.
* **Dev Team (Transcorp)**:  
  + Key contacts: **Salahuddin, Jonathan, Gayatri** under **Christopher O'Donnell**.
* **Smart Locker**:  
  + Managed by another team; used for charging/updating iPads.

## **📄 Documentation & Knowledge**

* **Training**: Many screenshots, architecture blueprints, and links to tools (like AnyPoint, Firebase, Mulesoft) provided.
* **Testing/QA**:  
  + No direct automation or test coverage discussed.
  + QA/test cases managed by Transcorp.

## **✅ Known Issues & Defects**

* **UI Defect**: Red banner erroneously shows "No IDMR" even when SAP long text is present.  
  + Solution ready; pending deployment by Salahuddin’s team.
* **Device Connectivity**: CN Wireless instability disrupts app sync.
* **Monitoring Center**: Ongoing project but not directly tied to DTC support.

## **📌 Additional Notes**

* **No architectural changes planned**, except minor UI fixes.
* **Vendor Integration**:  
  + **WebTech** (RX work orders).
  + **IDMR** (PDF manuals).
* **No defined CPU/memory sizing** – managed transparently by platform.
* **Workspace ONE & Firebase** are the main monitoring platforms for health and usage.