Essential Troubleshooting Techniques for Webex Cloud Connected UC

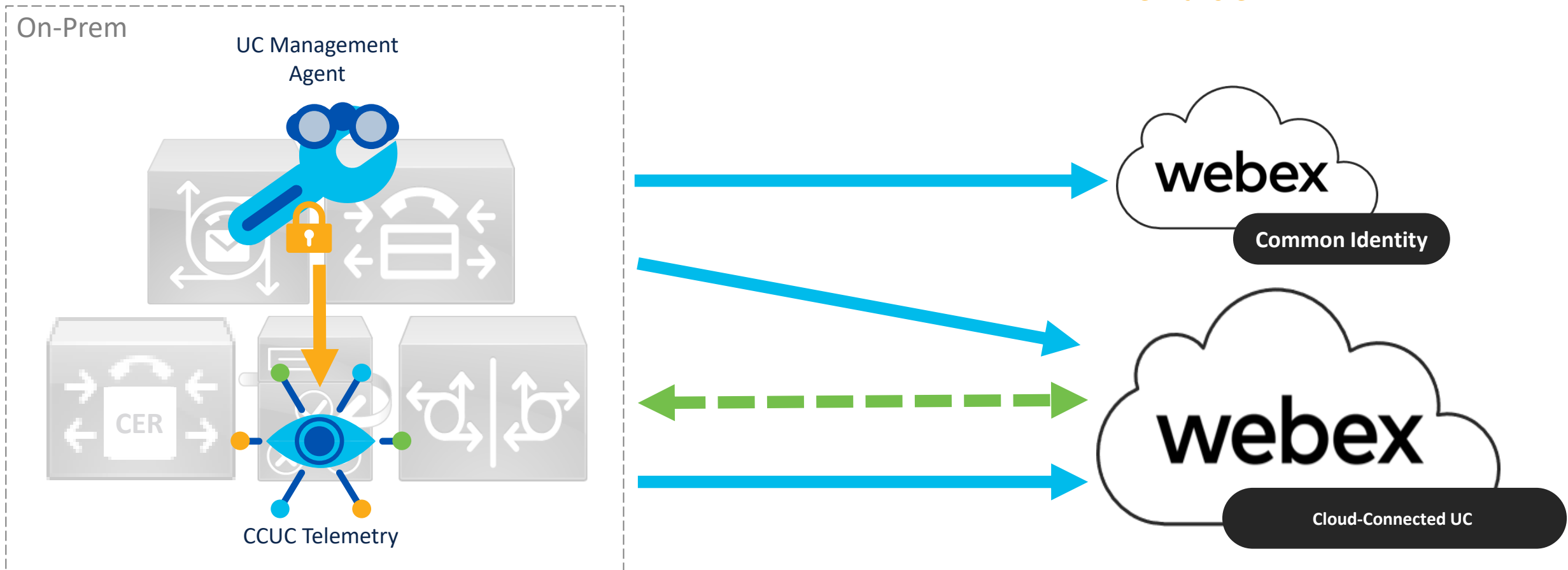## Insights from TAC Engineers

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TACCOL-2000

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Agenda

- Architecture/Overview
- Troubleshooting Use Cases
- Key Takeaways

Architecture

High Level Overview

RESTful API
WebSocket
File Transfer

On-Prem

UC Management Agent

CER

CCUC Telemetry

webex
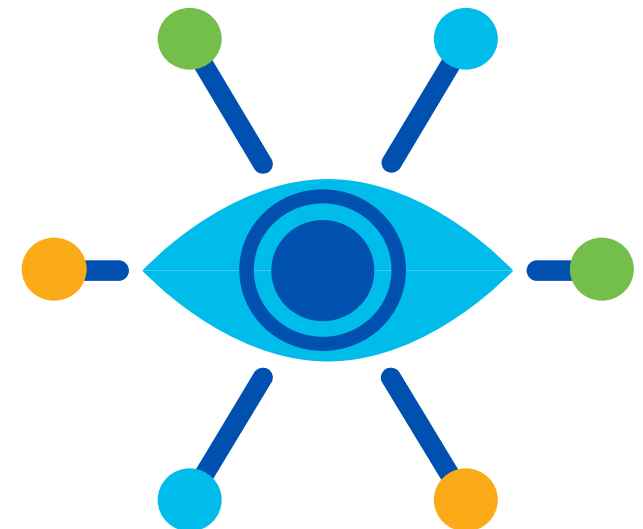**Common Identity**

webex
Cloud-Connected UC

Purpose

- **UC Management Agent**

  - Handles Authentication – Webex Common Identity

  - Install/upgrade CCUC telemetry module

  - Perform cluster discovery

  - CCUC disaster recovery

- **CCUC Telemetry Module**

  - Features and telemetry

  - Handles WebSocket connection

  - Gets system information from UCMGMT Agent through different files

UC Management Agent

UCMGMT Agent Registration

Cloud-Connected UC Controller

Common Identity

Unverified Check In

Admin verifies agent in Control Hub

Unverified Check In

Response with Refresh Token

Get Access Token with Refresh Token

Access Token

Verified Check In
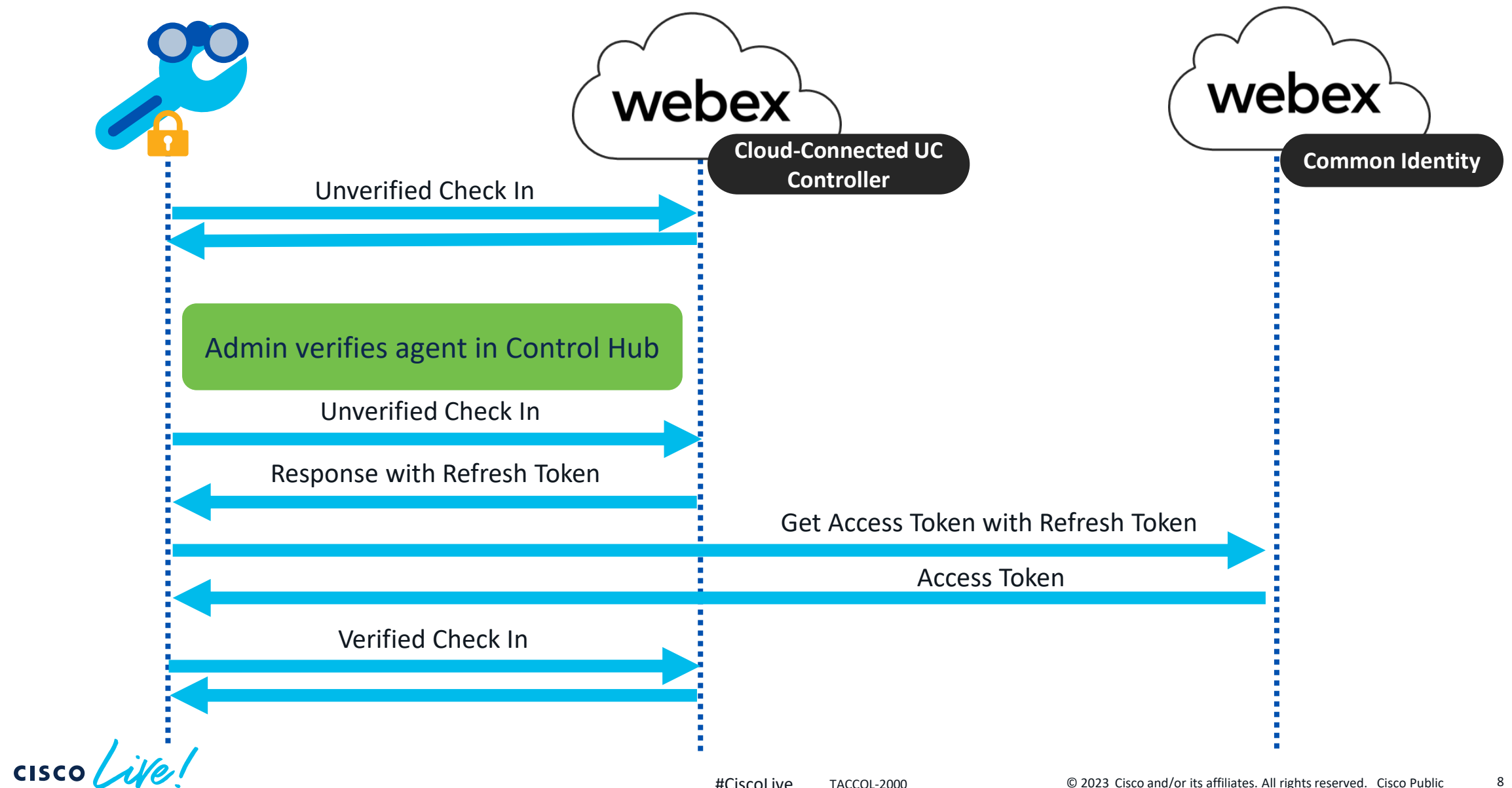
UCMGMT Agent Troubleshooting

What is needed for debugging?

- Run the following commands **in order** and get the output:

```
utils ucmgmt debug enable
utils ucmgmt proxy list
utils ucmgmt agent status
```

- Gather logs fifteen minutes after running the previous commands:
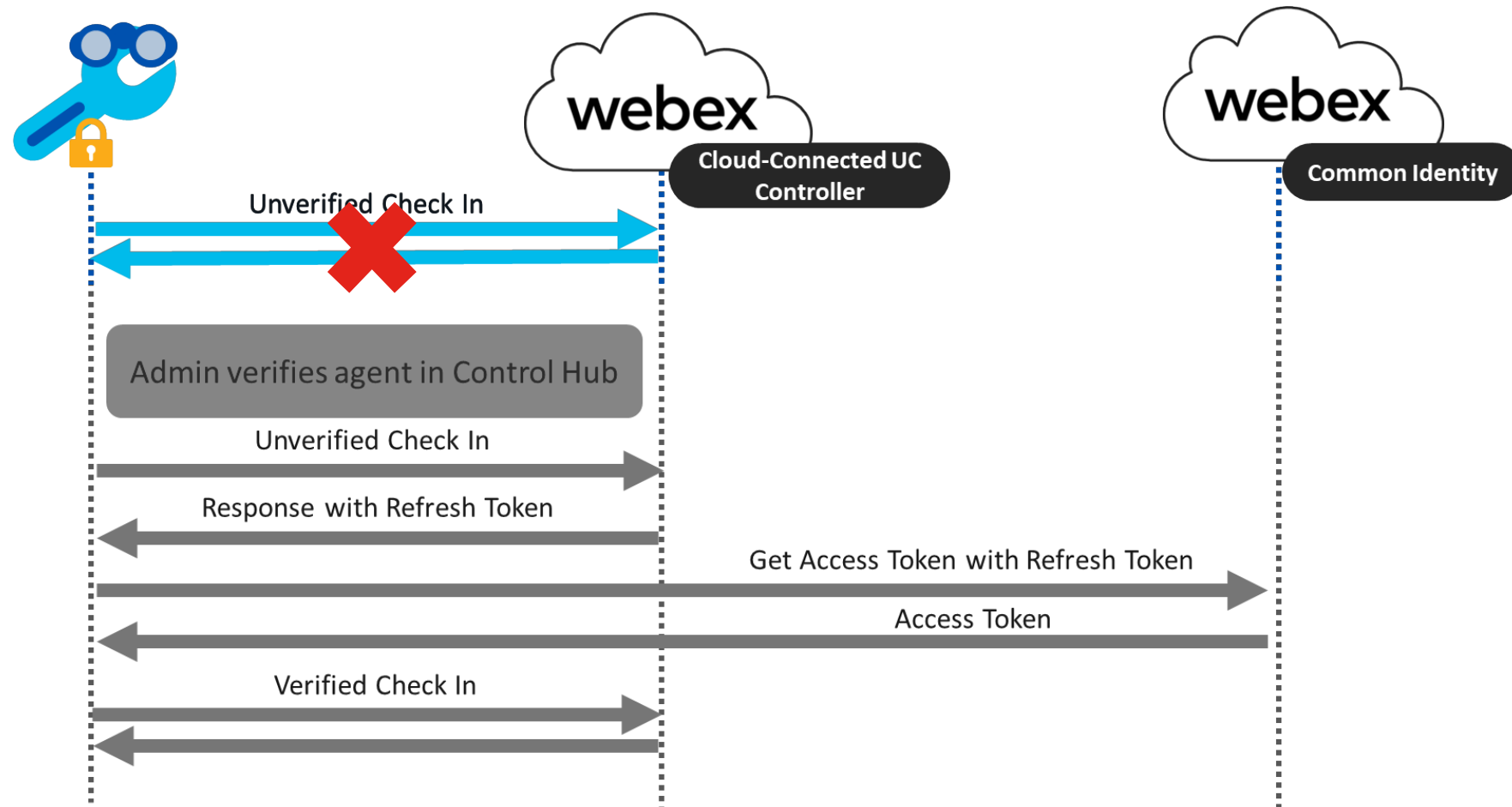
```
file get activelog ucmgmt/
```

⚠️ RTMT cannot be used for this!

UCMGMT Agent Troubleshooting

Common Scenario - Agent is not showing up in Control Hub after 20 minutes
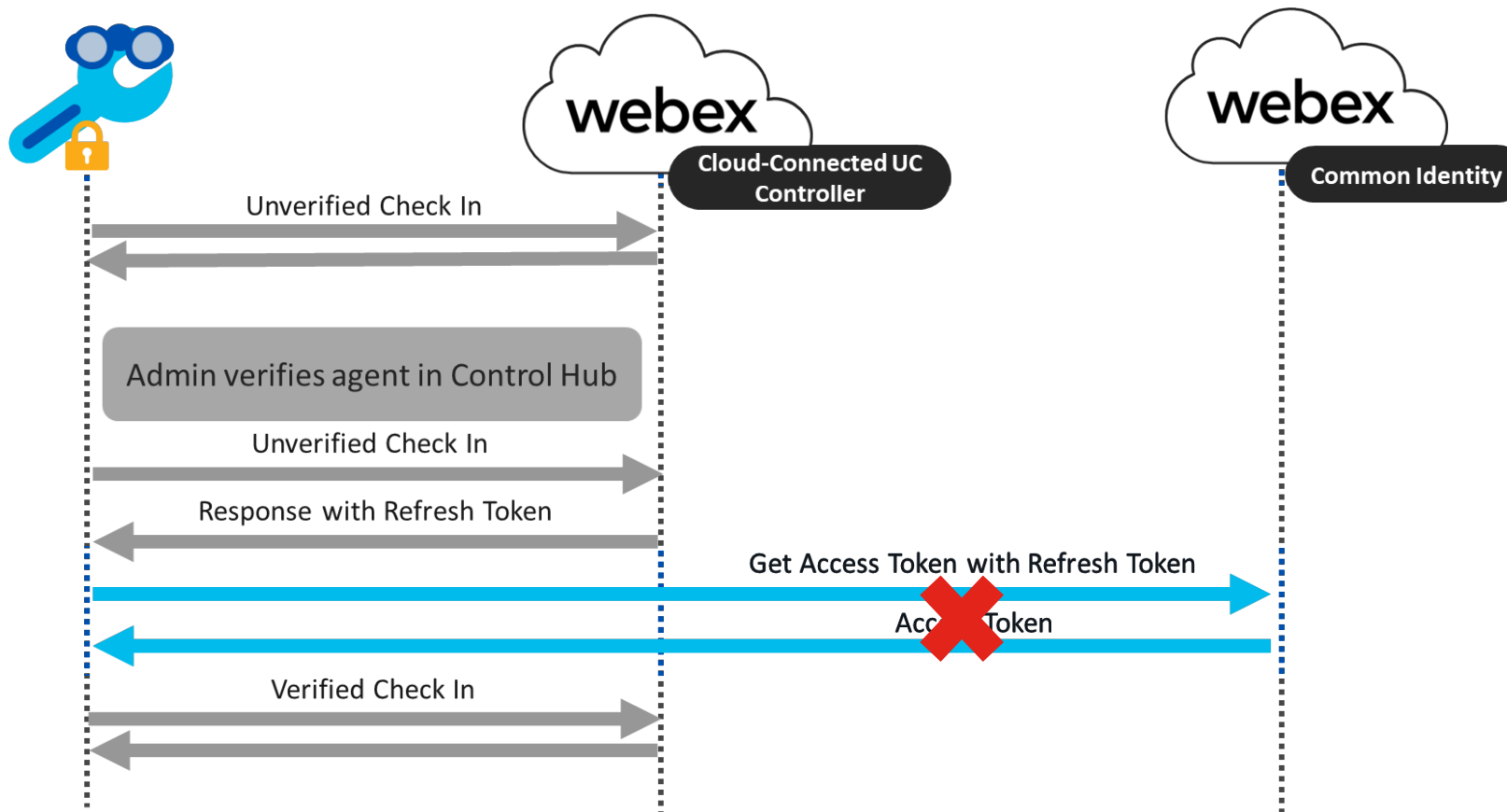
UCMGMT Agent Troubleshooting

Common Scenario - Agent is not showing up in Control Hub after 20 minutes

```
admin: utils ucmgmt agent status
[…]
Agent process is not running.
To start up the agent, run 'utils ucmgmt agent restart'.
Agent process is DISABLED.
To start up the agent, run 'utils ucmgmt agent enable'.
[…]
https://controller.ucmgmt.cisco.com/api/v1/ping status check returned:
Get "https://controller.ucmgmt.cisco.com/api/v1/ping": context deadline
exceeded (Client.Timeout exceeded while awaiting headers)
000
```

UCMGMT Agent Troubleshooting

Common Scenario - Agent keeps requiring to be verified in Control Hub AFTER we already verified

UCMGMT Agent Troubleshooting

Common Scenario - Agent keeps requiring to be verified in Control Hub AFTER we already verified

```
admin: utils ucmgmt agent status
[…]
Agent is verified in Webex Control Hub.
[…]
Checking access to https://idbroker.webex.com.
Access check to https://idbroker.webex.com failed.
[…]
Currently assigned cluster is 'https://idbroker.webex.com'.
```

Solution: Fix the network and security settings between Webex Common Identity and the on-prem infrastucture

UCMGMT Agent Troubleshooting

Common Scenario - Agent suddenly does not work after a major event (publisher restore, upgrade, migration)
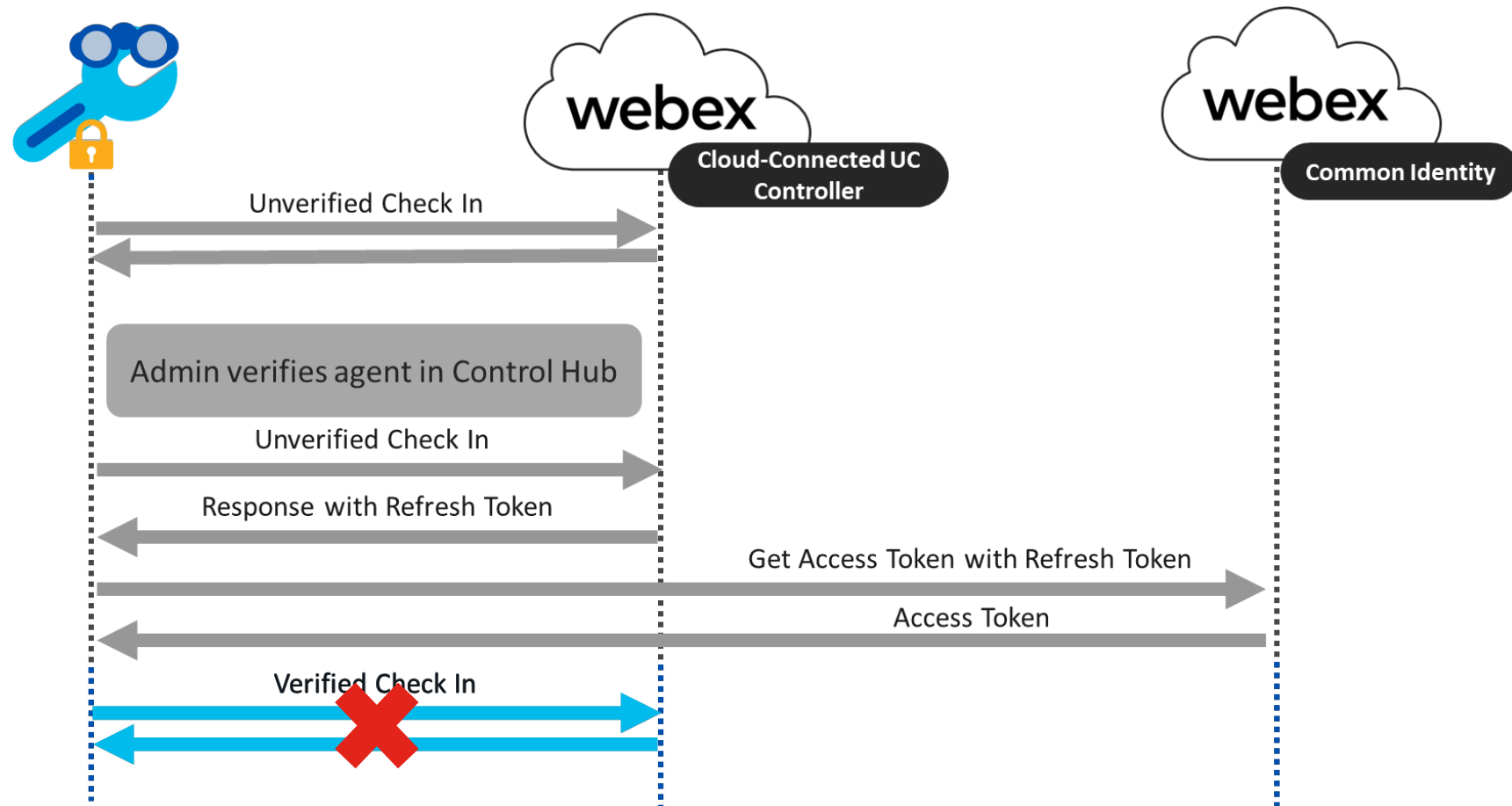
UCMGMT Agent Troubleshooting

Common Scenario - Agent suddenly does not work after a major event (publisher restore, upgrade, migration)

```
 admin: utils ucmgmt agent status
[…]
Checking UCMGMT agent cache and local DB for cluster publisher pkid value
mismatches
Cached    Cluster Publisher PKID: 1a7e209b-45cc-4bbd-9c09-6b14eed1e802
Local DB Cluster Publisher PKID: ab81326c-12c6-484e-9a95-e01a8f27de81

CLUSTER PUB PKID MISMATCH DETECTED!
To correct UCMGMT Agent must be removed and reinstalled.
'utils ucmgmt config export' before agent removal and
'utils ucmgmt config import' after removal can simplify the agent recovery (if
available).
[…]
```

UCMGMT Agent Troubleshooting

Log Output

- Two main types of error messages: Bash command failures and custom error messages

```
2022-08-08T03:26:51.992Z cloud_agent main  pid:45579) -> DEBUG_MODE Calling
command handler: CHECK_IN_handler with params: { "@class":
"com.cisco.collab.hcsac.beans.CheckInCommandInfo", "checkInRefreshInterval": 60,
"downloadUrl": null, "newVersion": null, "refreshToken": <SANITIZED> }
```

- Date/Time in UTC
- Script being run
- Function being run
- Pid
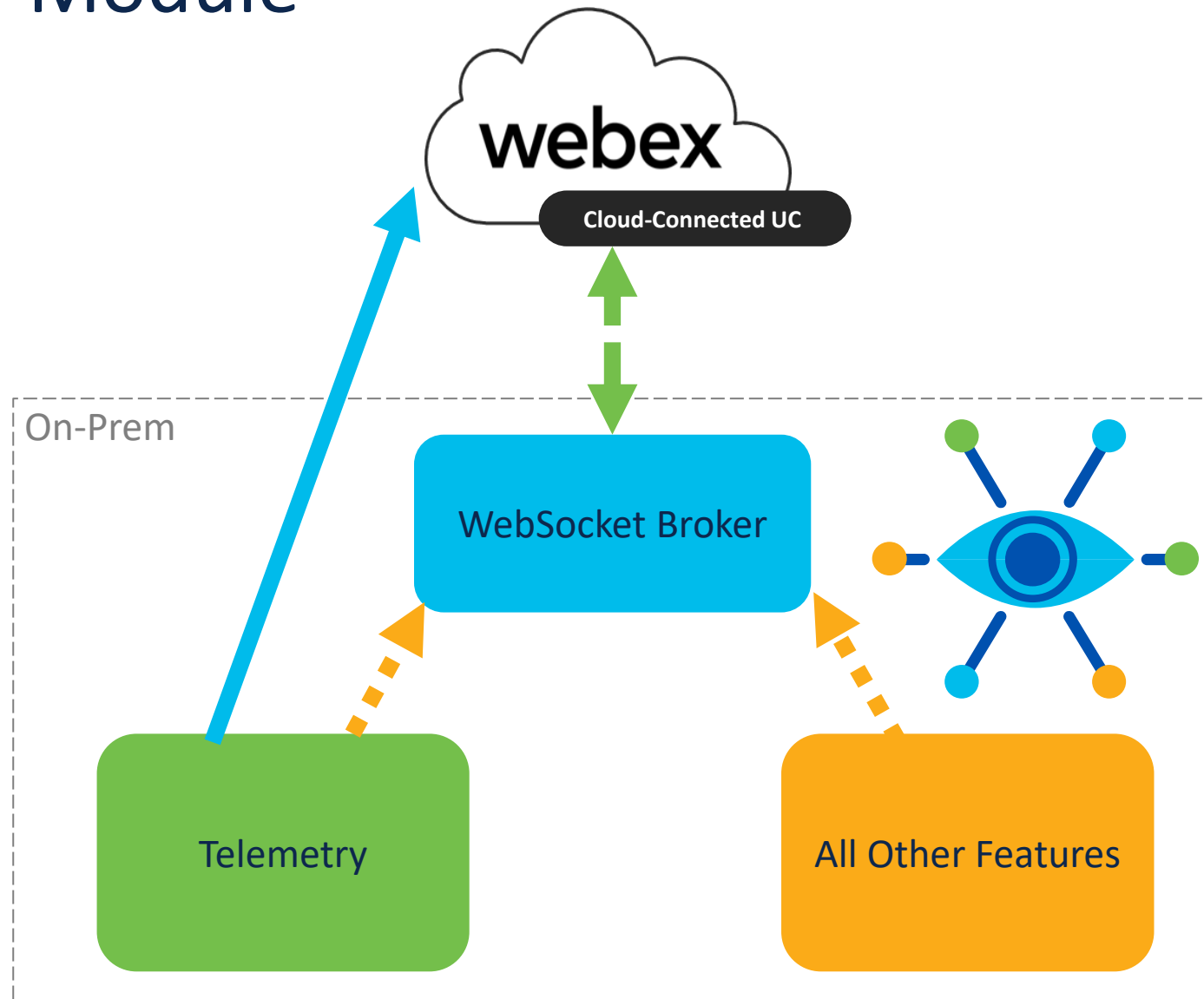- Whether logs are in debug mode or not
- Actual message

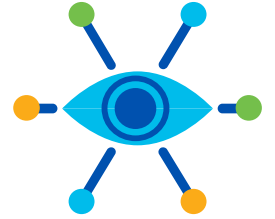# CCUC Telemetry Module

Telemetry Module

RESTful API
WebSocket
Pipes

Telemetry Module Troubleshooting

TelemetryReport.txt

```
Use "file view activelog telemetry/TelemetryReport.txt" to view the report
==============================================================================
Cisco Webex Cloud-Connected UC Telemetry Report
==============================================================================
All information in this report is to be used for debugging purpose by Cisco.

Report Generated On(GMT)        2023-04-23 15:58:36
Status                          connected
Module Version                  1653
Start Time(GMT)                 2023-04-23 11:22:00
Org ID                          d01a9ca0-29dc-4347-b7b0-cb5a22e57b0a
Time Zone                       EST
Cluster Name                    StandAloneCluster
Node Type                       ccm
Product Version                 14.0.1.12900-161
Cluster Id                      ab81326c-12c6-484e-9a95-e01a8f27de81
Agent Id                        3f3e242e-d856-4ffe-a1cb-aa6a2850c63d
Host Name                       ucmgmt-lab
Buffer Allocation               100 MB
Node Id                         00505684091F
Proxy                           None
```
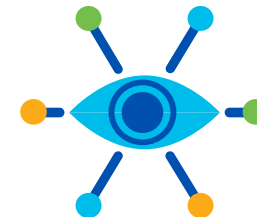
Telemetry Module Troubleshooting
WebSocket-broker won't establish a connection or connection is spotty

```
-----------------------------------------------------------------------
Websocket-broker Status (2023-04-25 18:57:58 GMT)
-----------------------------------------------------------------------

Connection Status              disconnected
Start Time(GMT)                2023-04-23 11:21:59
Connected Time(GMT)            2023-04-24 17:30:27
Disconnected Time(GMT)         2023-04-25 17:30:47
Connected Duration(s)          181768
DisconnectedDuration(s)        390000
ConnectedCount                 67
DisconnectedCount              68
```

- A high DisconnectedDuration indicates there was a network issue where the WebSocket broker could not establish a long-term connection to the cloud. Possibility of data loss could have occurred.
- A high DisconnectedCount indicates the network is unstable.

Telemetry Module Troubleshooting
Partial analytics with a stable network connection

```
---------------------------------------------------------------------------
Telemetry Checks (2023-04-25 06:57:21 GMT)
---------------------------------------------------------------------------

Result                              Test
------                              ----
Pass                                JTelemetry module is running
Pass                                Cluster upgrade not in progess
Fail                                CMR is enabled
    - CMR collection is off
Fail                                CDR is enabled
    - CDR service is OFF
Pass                                CDR file transfer
Fail                                Zero call duration enabled
    - Zero duration call is disabled
Pass                                Check high CDR duration
Pass                                Websocket-broker is running
```
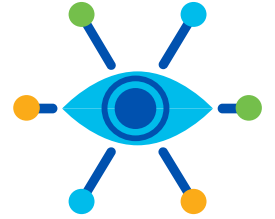
⚠️ Failure of any of the above tests can result in data loss in telemetry and other analytics

Telemetry Module Troubleshooting

PII information is not seen in Control Hub even if enabled

```
-------------------------------------------------------------------------
CCUC Service Information (2023-04-25 13:58:09 GMT)
-------------------------------------------------------------------------

Analytics                         Enabled
Deployment Insights               Enabled
Deployment Insights Limited       Disabled
Certificate Management            Enabled
Operation Metrics                 Enabled
Borderless CTI                    Enabled
Presence Status Sync              Disabled
Centralised Call History          Disabled
Collect Privacy Data              Disabled
```

This data should match what we have in Control Hub in Service Management
Solution: Pause and unpause CCUC via Control Hub

Telemetry Module Troubleshooting

Log Files

When collect logs, run the following commands:

```
file get activelog telemetry/*.txt*

file get activelog telemetry/*.log*

file get activelog websocket-broker/
```

- Log files cannot be gathered through RTMT

- Cannot change debug levels – Default: Info

Telemetry Module Troubleshooting

Log Output

```
2021-09-07T07:09:24.550Z - INFO - Thread-872 - health : TELEMETRYLOG : AGNT_7006495f-aeb1-42fa-b2ae-
be8143ed868d :1:AGNT:0x0_923:1: Executing Health Command processor
```
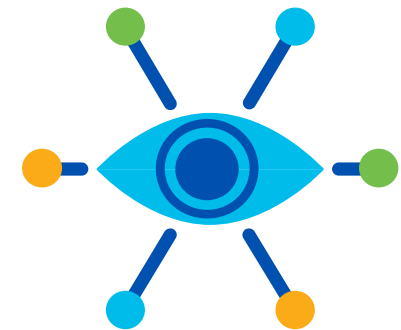
- Date/Time in UTC
- Message Level
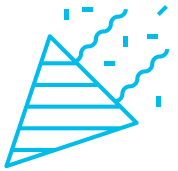- Name of File
- Tracking Id
- Actual Message

Key Takeaways

Key Takeaways

- Troubleshoot UCMGMT Agent first

  - Run the debug and status commands

- Verify all network requirements are satisfied

  - Make sure ucmgmt.cisco.com and webex.com are good

- Check the tests

  - Constantly updated as new common issues arise

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