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Clipper Executive Board Update

Sushil Rajendran
VP, Strategic Programs

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Executive Summary – Mar 30th, 2026

Update on items for Bulk Migration

Item	Description / Update	Planned Date from last CEB	Next Steps	Next Steps Target Date (Includes contingency)
Migration	• Migration v11 upgrade has successfully cleaned up on-demand migrations. • Deployed migration fixes as per the plan	Planned: Mar 13th Actual: Mar 14th	Witnessing some API timeouts tied to system performance Conduct bulk migration test	May 30th Contingency: 2 weeks
Migration – mobile wallets	• Resolved majority of mobile wallets. 30 unusable cards identified and process to resolve finalized with MTC.	Planned: Feb 25th Forecast: Mar 27th	Replacement for registered mobile wallet customers	March 27th
System Performance	• Upgrade included some improvements in performance. Specifically, Operational Data Store trip history • New performance issues identified in Operational Data Store and API response times	Planned: Mar 16th Actual: Mar 22nd	Team assigned and evaluating fixes for performance improvements on Operational Data Store and APIs	May 30th Contingency: 2 weeks

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SFMTA TVM	• 36 out of 36 TVM memory upgraded • SFMTA software testing completed. Deployed on 3/26	Planned: Feb 23rd Actual: Mar 26th	Completed on Mar 26th	N/A
Fare Inspection Device Update	• 504 out of 604 devices updated (83%) as of Mar-26 • Critical issues still evident with Caltrain. Changes in next release.	Planned: Mar 30th Forecast: Apr 10th	Completion on Apr 10th in coordination w/operators	Apr 10th
Fare Inspection Device Software Improvements	• Database performance: 6 out of 8 development items completed • Addition performance improvements identified with estimates / timeline being finalized	Planned: Apr 30th Forecast: Apr 30th	Complete 2 remaining DB performance items Timeline for additional improvements	May 15th Contingency: 2 weeks
Customer Service Terminal	• Critical fixes from defects list. Expect next release the week of March 30th	Planned: Feb 23rd Forecast: Apr 15th	Release CST software, complete testing and roll-out	Apr 15th Contingency: 1 week

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Migration – Autoload Fix	• Certain autoload scenarios are not migrated • Fixed with V11 migration upgrade on 3/14	Planned: Mar 13th Actual: Mar 14th	Completed on Mar 14th	N/A
Monitoring	• Tooling gaps (AppDynamics, SolarWinds capacity) identified and improved tuning and threshold management • Completed core monitoring gaps previously identified. 4 new items identified and monitoring being updated	Planned: Mar 28th Actual: Mar 23rd	Finalize 4 remaining monitoring updates	Apr 10th Contingency: 1 week
Contact Center CRM Issues	• Top 5 issues being focused on and will incrementally resolve critical/high issues first. 3 currently in test with 2 process issues being worked on.	N/A	Software Release and Triage next set of CRM issues	May 30th Contingency: 2 weeks

Contact Center – Priority Issues

Rank	Key Challenges	Description	Update (as of 3/26)	Priority
1	Maintenance Management Portal (MMP) responses	• Routinely experiencing delays in MMP tickets	• Process issue: Working with various functional teams to improve response time to MMP tickets • Second phase - will be assessing user access automation	Critical
2	Replacement Workflow	• Replacement Process inconsistent, will allow workflow up to last step, then fail. • Replace >Existing workflow will not allow BART HVD or Pretax	• System Issue: In triage to determine root cause of this issue	Critical
3	Senior/Youth Replacements	• Senior/Youth Replacements (when able to complete) are arriving with wrong Fare category	• System Issue: Issue has been fixed and is awaiting formal release	Critical
4	Refunds	• Refunds processed with Check as refund type are not being processed, no moving into 60 days	• System Issue 1. Check Printer in process of being resolved 2. Team working on processing backlog via APIs so that refund can be processed	Critical
5	Balance Transfer from Adult to Senior/Youth	• Agents unable to complete BT via CRM for adult to ANY special fare card type	• System Issue: Resolved and released into production March 27	High

- Reviewed top 5 priority issues provided by WSP
- Issues being actively worked for resolution. Once complete Cubic will focus on next 5 priorities

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Back Office	• Upgrade successfully completed for 3/22. Team will focus on finalizing a longer-term release plan.	N/A	Develop Release Plan for remaining critical fixes and resolve critical defects	May 15th Contingency: 2 weeks
Critical Defects	• 70 critical defects identified as of 3/18. Some defects resolved with last upgrade. • Cubic/MTC to align on critical defects list and release plan by 4/3. List provided to MTC.	N/A	Timeline for remaining open critical defects being finalized (49 defects) and resolution of critical defects	May 30th Contingency: 2 weeks
Financial Reconciliation	• CA650 report deployed and reconciliation has improved. Lag time now down to 2 days. Successful reconciliation since Mar-18th. • Remaining issues being worked on actively for resolution.	Planned: Mar 9th Forecast: May 30th	Finalize all remaining fixes to reduce reconciliation issues and Lag time down to 1 day	May 30th Contingency: 2 weeks

Major Incidents (Since Dec 10, 2025)

#	Incident Number	Short description	Occurred	Resolved	Outage Time	Root Cause	Resolution
1	INC10081372	Unable to pull up C1 card details via CRM, App, Website and Park/Unpark on IOS	2025-12-10 08:22:38	2025-12-10 19:13:01	4 hrs 54 mins	Performance limitations within the legacy Clipper system, particularly its reliance on the Pivotal database, which introduced significant latency in critical stored procedure response.	Optimized legacy system performance—including fixing socket errors, improving CRM endpoint latency with multi-threading, and rescheduling jobs.
2	INC10098036	Intermittent failures experienced by patrons when provisioning new virtual cards or loading value using the Android App or Google Pay wallet	2025-12-13 11:37:33	2025-12-13 13:49:37	1 hr 42 mins	Redis server, which was initially functioning properly, experienced high CPU utilization and subsequently went down.	Team upgraded the Redis server to a larger configuration to handle the increased load from ABP processes.
3	INC10120090	Order Management System issue affecting multiple systems.	2025-12-17 16:47:20	2025-12-17 18:53:57	2 hrs 6 mins	Slow running queries within the OMS system that impaired its ability to process transactions efficiently and led to transaction backlog	Team identified poor performing query in OMS and create indexes fix the issue.
4	INC10134984	VTM node 2 is down and ODS transform is "bad" Trip history was not available on the website or CRM.	2025-12-20 09:42:05	2025-12-20 11:58:37	2 hrs 16 mins	ODS transform process, which failed to properly process transactions from ABP to CRM.	Service was restored after restarting ABP components, stabilizing VTM nodes, and clearing the processing backlog.
5	INC10265372	CRM DOWN	2026-01-14 14:09:03	2026-01-14 14:52:30	41 mins	A fault in the clustering configuration of the CRM application on the second node, which prevented session state from being shared across cluster nodes.	Technical teams removed clustering from the application, which restored functionality.
6	INC10285878	Spike in top up perform payment call failures	2026-01-19 07:48:10	2026-01-19 09:46:42	1 hr 36 mins	The outage was caused by Redis entering a hung state due to high memory utilization, impacting payment processing, Concurrently, VTM nodes experienced memory-related performance degradation.	Resized the Redis server to increase RAM and disk space, followed by rolling restart of VTM servers stabilized the system.
7	INC10461455	All the vendors and addfare machines are unable to add money to the patron Cards. Happening systemwide.	2026-02-27 17:21:25	2026-02-27 20:52:26	2 hrs 37 mins	The errors seen in VTM at this time point back known bug/issues with VTM giving out a high rate of 500 internal server errors.	Redis server was restarted, followed by a VTM service restart, which restored full functionality.
8	INC10498546	Operator fare inspection devices cannot connect to the back office. Patrons cannot access their accounts via the traveler app or website.	2026-03-07 04:52:44	2026-03-07 12:50:08	12 hrs 50 min	CHG0118291 (device update downloads) generated excessive simultaneous connections to NCS, exhausting thread and database connection pools and causing the NIS service to become unavailable.	The issue was resolved by configuring NCS/CDCS resource limits, restarting overloaded nodes, and implementing an automated script to cycle NCS nodes, restoring service stability.
9	INC10560189	Agents can't access customers account.	2026-03-21 10:53:27	2026-03-21 11:57:58	59 mins	FRA reached full capacity after system archives failed to generate, causing the ODS database to go offline.	Cleared old archive logs to free FRA space, bringing the ODS database back online.
10	INC10583386	All vending machines were showing " Verify failure and Limit". Patrons were unable to make purchase with Clipper card.	2026-03-25 15:17:06	2026-03-25 19:05:33	3 hrs 48 mins	Missing indexing in the Order Management System caused slow running queries and timeouts of sales orders.	Added four indexes to OMS database table.