

INNOVATION - WE ALWAYS FIND A BETTER WAY

INNOVATION MONTHLY RECOGNITION

April 2022



NPI In Taiwan for Catalina Cluster Build

Catalina is very complex server design and, unfortunately, no engineer in Fremont had any experience with that. We had a 16 node cluster to build on a tight timeline. A Fremont NPI build would've been problematic with no travel from Taiwan being feasible in late 2020. So Catalina team developed and executed an NPI build plan in HOU and shipped the cluster to Intel with minimal delays.

	Teamwork	Company Impact	Customer Delight	Comments
	H	M	M	This pioneered NPI builds in Taiwan, we may need to use that more.
Team Members	Ashley Chang, Sam Tsay, Bell Liang, Alex Lee, Pony Yang, Powei Wang, Greg Ting			

- Catalina is the most complex server design at Hyve, ever:
 - 8S with two 4S connected with cables
 - 8 ports of 100 GbE on MB network controllers
 - Liquid cooling module for thermal
- No engineer in Fremont had any experience with Catalina and travel from Taiwan was not possible
- This cluster is used by Intel to publish MLPerf results
- Ashley created a plan in which Mitac factory HOU in Hsinchu would do the system build. Catalina engineering team was able to be on site for this.
- Engineering team modified lab tests to use for manufacturing, as well as wrote assembly and handling instructions for technicians
- Yield was high, 2 or 3 servers had to be reworked



Catalina 8S server

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“What can we change to make things / processes / products better?”



PROJECT:

**NPI In Taiwan for
Catalina Cluster Build**

TEAM:

- Ashley Chang
- Bell Liang
- Pony Yang
- Sam Tsay
- Greg Ting
- Alex Lee
- Powei Wang



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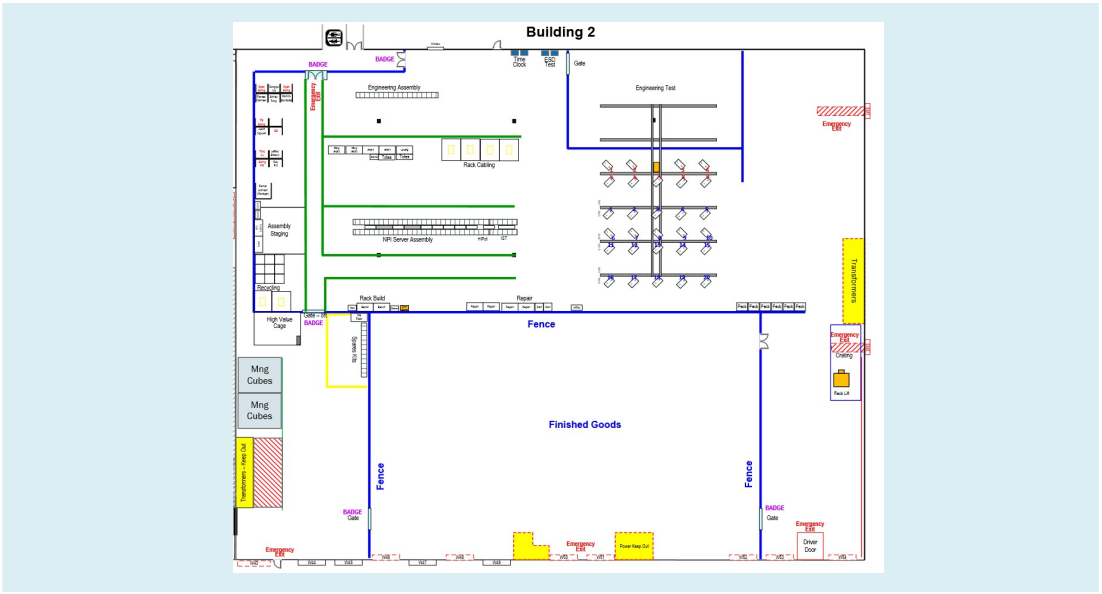


B2 Fence Project (5)

Woody customer had a security audit to OB site, and showed some concern of our security control process/methodology, like bi-directional exit/entrance, exposed finished goods area, so we have this project to review all potential issue of security globally, B2 fence is part of global campus security improvement project. It will segregate NPI area/finished goods area, improve customer IP protection, satisfied customer security concern.

	Teamwork	Company Impact	Customer Delight	Comments (-> Add your own assessment on each criteria as Low/Med/High)
	M	H	H	Gives visibility to racks held in the test queue
Team Member List (2-7)	Ford Wang, John Ferguson, Romar Johnson, Ron Sakurai, Jack Wang, John Diekman, Sherlly Naidu			

- Add a second metal detector to create a separate path for exit & entrance, use transparent plastic glass as divider, solve the bi-directional concern from customer.
- Add fence for new finished goods area to create an enclosed area.
- Add fence for NPI team to separate warehouse worker and production/engineering, protect customer IP.
- Add Badge control system for each door, use systematic control.



B2 Fence Layout

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PROJECT:

B2 Fence Project

TEAM:

- Ford Wang
- John Ferguson
- Romar Johnson
- Ron Sakurai
- Jack Wang
- John Deikman
- Sherlly Naidu



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Summary: Converged FRU provisioning utility which automates FRU programming for all PCBs types regardless of origin (purchased or designed). Latest iteration decreases code footprint by 75% and reduces workflow iterations required as the need for an original FRU template is no longer required.

	Teamwork	Company Impact	Customer Delight	Comments
	M	H	H	Utilized Across Multiple Customers, Approved SCAR Response
Team Members	Brad Wilson and Neil Phipps			

- A programmatic Solution to a Received **Customer** SCAR for Consistent FRU Programming
- Currently Utilized for **ALL** Customers
- Standalone FRU Provisioning Tool
- Removes Reliance on Inheritance of Tools from Other ODMs (**Security / Tool Reliability / Flexibility**)
- Adheres to FRU IPMI Specification (Revision 1.1)
- **FRU Correctness and Integrity Gates Customer Vetting Process (Big Picture Important)**

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PROJECT:

FRUGen v2.0

TEAM:

- Brad Wilson
- Neil Phipps



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NPI: Strategic Shipments

Month: April 2022
Nominator: Nauman Navaid

Customers (Boost, Dash, Scooby) servers/racks shipments were in the critical path with very different test requirements. Chris Chang was able to make the test changes and Hyve was able to make the shipments.

	Teamwork	Company Impact	Customer Delight	Comments
	H	H	H	Enhanced manufacturing test process with Customer satisfaction
Team Member	Christopher Chang			

- Boost: Suggested changes to firmware flash process to avoid flashing issue. Customer changed test requirements during build but Chris was able to propose changes with minimum disturbance to overall burn-in test.
- Dash: Many days and hours were spent due to the complicated nature of the cabling configuration on these racks, the setup, configuration and testing processes for these servers. The required tests were customer requested.
- Scooby: New customer test requirements were difficult to implement, but Chris worked with software team to get a working test process. New pass/fail criteria has led to new troubleshooting steps required

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PROJECT:

NPI: Strategic Shipments

TEAM:

- Christopher Chang



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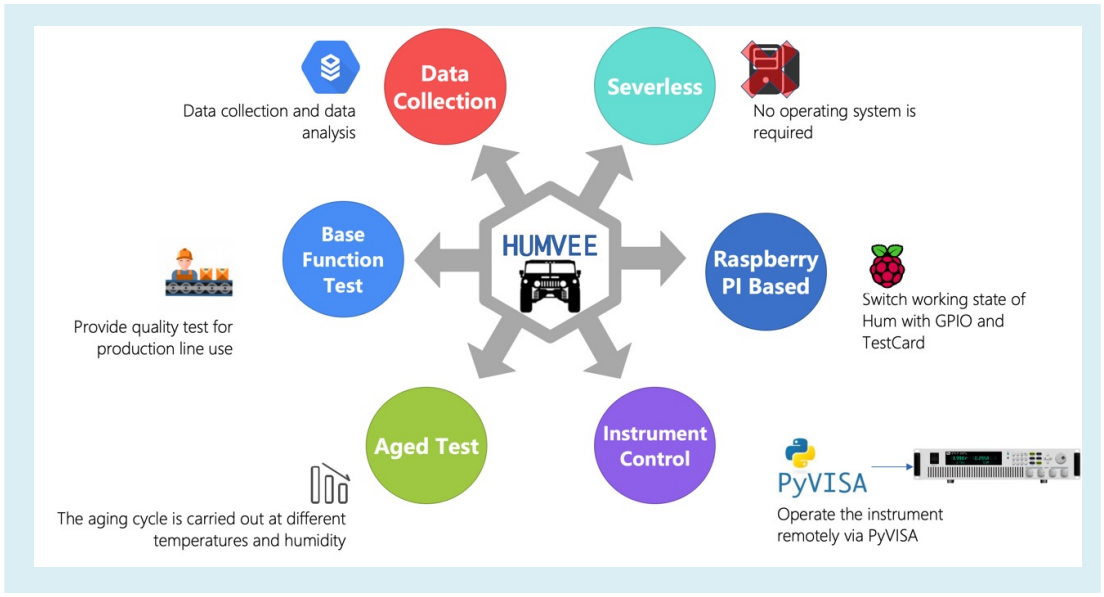


Using HUMVEE for Hold Up Module BFT

HUMVEE is an innovative test system for validation of hold up modules. This was presented to Woody as a critical differentiator for the Bruno19 project as the HUM design was considered a key part. HUMVEE was used to establish reliability of the HUM during DVT. But it was also successfully adapted for functional test in manufacturing.

	Teamwork	Company Impact	Customer Delight	Comments
	H	M	H	
Team Members	Peter Lin, Wilco Chen, Ziv Ho, Rossi Wu, Roger Chen, C.T. Huang, Bryant Tsao			

- HUMVEE establishes modular hardware testing at Hyve
- HUMVEE is a particularly robust method for power delivery & distribution boards
- Using HUMVEE as a BFT test further establishes a high leverage between robust product validation and a comprehensive manufacturing test
- HUMVEE has key software and hardware design elements which can be reused in future modular testing projects



HUMVEE Concept

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PROJECT:

**Using HUMVEE for
Hold Up Module BFT**

TEAM:

- Peter Lin
- Wilco Chen
- Ziv Ho
- Rossi Wu
- Roger Chen
- C.T. Huang
- Bryant Tsao



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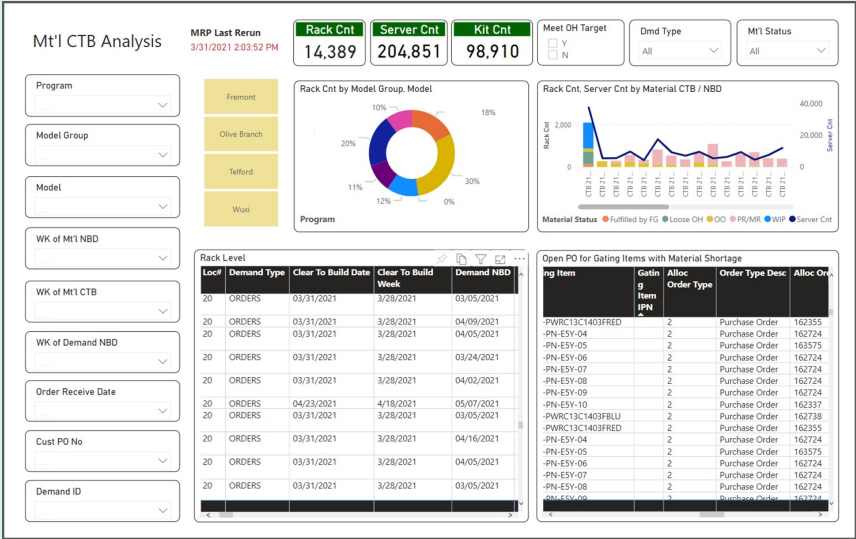


Materials CTB (Clear to Build) Analysis

Materials Clear to Build (CTB) data is critical to support customer demand as well as planning production capacity and the other day-to-day operations. We also use this data to increase revenue by working with customers to allocate more purchase orders. In the past, Supply Chain needed to spend at least a day or two to complete weekly CTB report. As of today, this analysis is in PBI and being updated every two hours after MRP rerun. This report is also shared with PM/Sales Ops team and Mfg planning team.

	Teamwork	Company Impact	Customer Delight	Comments
	M	H	H	SC initiated the development of this CTB report with IT developers.
Team Members	Sarah Lin, Shama Balannawar, Rod Zhong, Darren Zhang			

- Supply Chain recognized the need to improve the turn-around-time of CTB analysis as well as to reduce the manual process.
- Supply Chain provided the detail requirements for automating CTB analysis process.
- IT worked with SC to create the spec and developed the PBI.
- Supply Chain gave this report access and training to PM/Sales Ops team and Mfg planning team.
- Supply Chain uses this report for supply/demand heatmap for customers.
- This report is very critical for Hyve day-to-day operations (ex. order fulfillment, increase orders/revenue, excess consumption, constraint mitigation, production capacity planning, revenue projection)



Mtl's CTB Analysis

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PROJECT:

Materials CTB (Clear to Build) Analysis

TEAM:

- Sarah Lin
- Shama Balannawar
- Rod Zhong
- Darren Zhang



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