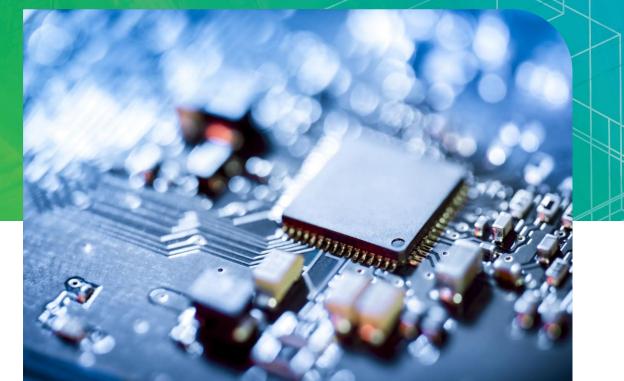


October 2025





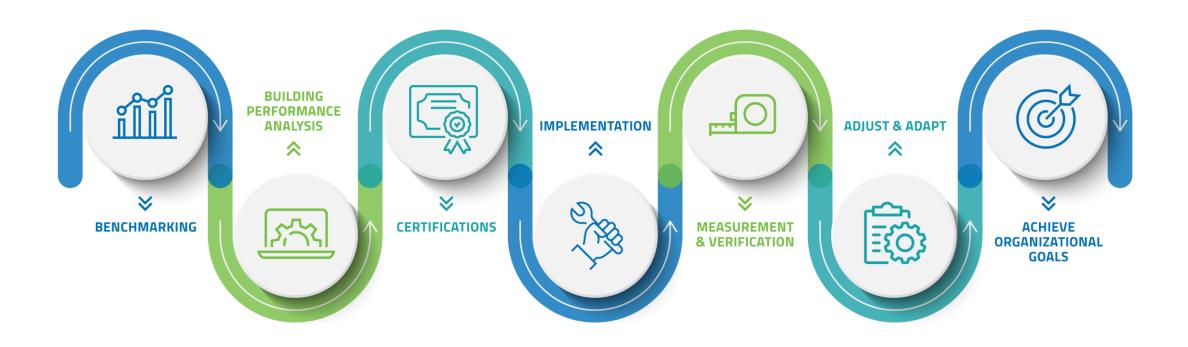
Introductions

- Mike Ball Principal
 - Ohio and surrounding regions

- Ben Talbot Analytics Group Leader
 - BalanceCx development and delivery



Holistic Building Performance



Introduction to the Commissioning Process



Al Use Cases

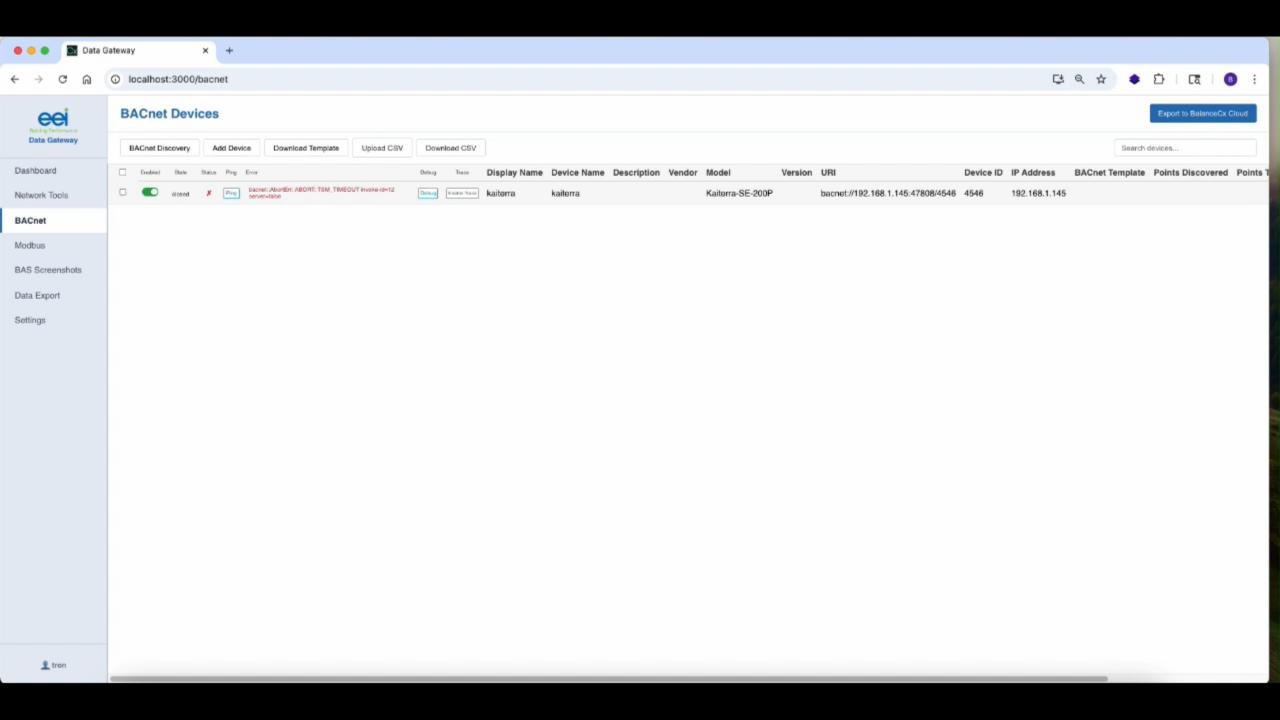
- Setup
 - Application Development
- Cx
 - Design Document Data Extraction
- Operations
 - Context Aware Chats
 - Energy Efficiency Measure Generator

Application Development

- Claude Code
- Cursor
- OpenAl Codex
- Gemini
- Replit







Design Data Extraction with AI

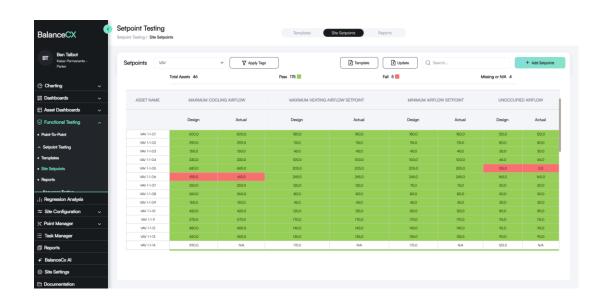
- Commissioning Data
 - Mechanical Schedules
 - Controls Points Lists
 - Controls Sequence of Operations
- Al Tools
 - Gemini
 - ChatGPT
 - Abby Fine Reader

Setpoints

Design Drawings

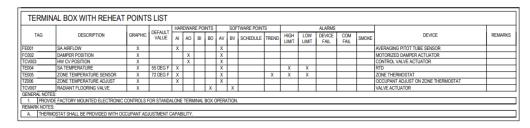
AHU-03 TE	RMINAL AIR BOX SCHEDULE - S	SINGLE D	OUCT HO	T WATER	REHEAT												
	SERVICE					CFM	HEATING COIL							_			
VAV TAG (VAV.#)	ROOM NAMES	ROOM	INLET BOX	BOX OUTLET SIZE	COOLING MAX.	HEATING	MN.	FLUID	EAT °F	LAT °F	EWT *F	LWT °F	SENS. CAPACITY (MBH)	GPM	MANUFACTURER	MODEL	MIN. NUMBER OF ROWS
VAV-3-01	CORRIDOR A	C100	14	20x18	2590	1280	800	40% P.G.	55.0	85.0	140.0	111.8	32.7	2.50	PRICE	SDV	2
VAV-3-02	CLINICAL OFFICES STAFF TOILET ROOM HOTELING ROOM GROUP PHONE ROOM	103 103A 103C 103B	12	16x16	1820	880	625	40% P.G.	55.0	85.0		115.8	22.5	2.00	PRICE	SDV	2
VAV-3-03	TOLET ROOM CONSULT CORRIDOR	104 101 100A	6	12x8	460	225	225	40% P.G.	55.0	85.0	140.0	115.2	5.8	0.50	PRICE	SDV	2
VAV-3-04	COMFORT ROOM	102	5	12x8	210	100	75	40% P.G.	55.0	85.0	140.0	129.0	2.6	0.50	PRICE	SDV	2
VAV-3-05	CORRIDOR B	C100	10	14x12	1540	1280	475	40% P.G.	55.0	85.0	140.0	111.8	32.7	2.50	PRICE	SDV	2
VAV-3-06	QUIET LOUNGE	118	5	12x8	230	120	75	40% P.G.	55.0	85.0	140.0	126.8	3.1	0.50	PRICE	SDV	2
VAV-3-07	CORRIDOR VESTIBULE	100B 100B.1	7	12x8	560	290	175	40% P.G.	55.0	85.0	140.0	118.7	7.4	0.75	PRICE	SDV	2
VAV-3-08	CHAIR STORAGE ROOM EQUIPMENT STORAGE ROOM QUIET LOUNGE COMFORT ROOM	112 110 114 116	7	12x8	710	350	225	40% P.G.	55.0	85.0	140.0	114.3	8.9	0.75	PRICE	SDV	2
VAV-3-09	MULTIPURPOSE ROOM	117	7	12x8	640	400	400	40% P.G.	55.0	85.0	140.0	110.6	10.2	0.75	PRICE	SDV	2
VAV-3-10	GROUP THERAPY ROOM	115	5	12x8	290	150	150	40% P.G.	55.0	85.0	140.0	123.5	3.8	0.50	PRICE	SDV	2
VAV-3-11	SALLYPORT CLEAN LITILITY ROOM MECHANICAL ACCESS CORRIDOR	100.1 124 111 100	9	12x10	1140	540	400	40% P.G.	55.0	85.0	140.0	110.3	13.8	1.00	PRICE	SDV	2
VAV-3-12	SOILED UTILITY ROOM STAFF LOUNGE	120 122	6	12x8	420	225	225	40% P.G.	55.0	85.0	140.0	115.2	5.8	0.50	PRICE	SDV	2
VAV-3-13	ANTE ROOM SECLUSION ROOM SECLUSION ROOM TOILET ROOM	128 128A 128B 128C	7	12x8	600	350	350	40% P.G.	55.0	85.0	140.0	114.3	8.9	0.75	PRICE	SDV	2
VAV-3-14A	FOOD SERVICE	121	6	12x8	380	375	375	40% P.G.	55.0	85.0	140.0	112.5	9.6	0.75	PRICE	SDV	2
VAV-3-14B	DINING ROOM	123	9	12x10	1000	750	750	40% P.G.	55.0	85.0	140.0	112.5	19.2	1.50	PRICE	SDV	2
VAV-3-15	PATIENT LAUNDRY ROOM HOUSEKEEPING ROOM TOLET ROOM TOLET ROOM TOLET ROOM CORRIDOR	126 130 125 127 133 100C	9	12x10	1110	750	750	40% P.G.	55.0	85.0	140.0	112.5	19.2	1.50	PRICE	SDV	2
VAV-3-16	QUIET ACTIVITY ROOM	129	5	12x8	180	90	75	40% P.G.	55.0	85.0	140.0	130.1	2.3	0.50	PRICE	SDV	2
VAV-3-17	EXAM ROOM CHARTING ROOM MEDS ROOM	132 136 136A	7	12x8	680	475	475	40% P.G.	55.0	85.0	140.0	113.8	12.1	1.00	PRICE	SDV	2
VAV-3-18	TEAM CONFERENCE ROOM NURSE STATION CORRIDOR	1368 1368	9	12x10	1020	500	400	40% P.G.	55.0	85.0	140.0	112.5	12.8	1.00	PRICE	SDV	2
VAV-3-19	ACTIVITY ROOM CORRIDOR	140 140A	9	12x10	1240	560	500	40% P.G.	55.0	85.0	140.0	109.2	14.3	1.00	PRICE	SDV	2
VAV-3-20	QUIET LOUNGE	142	5	12x8	210	100	75	40% P.G.	55.0	85.0	140.0	129.0	2.6	0.50	PRICE	SDV	2
VAV-3-21	BEDROOM BEDROOM	144 146	6	12x8	460	300	300	40% P.G.	55.0	85.0	140.0	118.0	7.7	0.75	PRICE	SDV	2
VAV-3-22	BEDROOM TOILET ROOM	151 151A	5	12x8	320	225	225	40% P.G.	55.0	85.0	140.0	115.2	5.8	0.50	PRICE	SDV	2
VAV-3-23	HC BEDROOM BEDROOM BEDROOM BEDROOM	141 143 145 147 149	9	12x10	1210	775	775	40% P.G.	55.0	85.0	140.0	111.5	19.8	1.50	PRICE	SDV	2
VAV-3-24	NURSE STATION MAIN TELEPHONE AREA	134 135	10	14x12	1330	660	400	40% P.G.	55.0	85.0	140.0	115.8	16.9	1.50	PRICE	SDV	2
VAV-3-25	ACTIVITY ROOM CORRIDOR	160 160A	8	12x10	900	440	425	40% P.G.	55.0	85.0	140.0	115.8	11.2	1.00	PRICE	SDV	2
VAV-3-26	QUIET LOUNGE	162	5	12x8	210	100	75	40% P.G.	55.0	85.0	140.0	129.0	2.6	0.50	PRICE	SDV	2
VAV-3-27	BEDROOM BEDROOM	164 166	6	12x8	460	300	300	40% P.G.	55.0	85.0	140.0	118.0	7.7	0.75	PRICE	SDV	2
VAV-3-28A	HC BEDROOM BEDROOM BEDROOM BEDROOM	161 163 165 167 169	9	12x10	1100	775	775	40% P.G.	55.0	85.0	140.0	111.5	19.8	1.50	PRICE	SDV	2
VAV-3-288	BEDROOM TOILET ROOM	171 171A	5	12x8	300	225	225	40% P.G.	55.0	85.0	140.0	115.2	5.8	0.50	PRICE	SDV	2
VAV-3-29	ACTIVITY ROOM CORRIDOR	180 180A	9	12x10	1110	540	475	40% P.G.	55.0	85.0	140.0	110.3	13.8	1.00	PRICE	SDV	2
VAV-3-30	QUIET LOUNGE	182	5	12x8	210	100	75	40% P.G.	55.0	85.0	140.0	129.0	2.6	0.50	PRICE	SDV	2
VAV-3-31	BEDROOM BEDROOM HC BEDROOM BEDROOM BEDROOM	184 186	6	12x8	460	300	300	40% P.G.	55.0	85.0	140.0	118.0	7.7	0.75	PRICE	SDV	2
VAV-3-32	BEDROOM BEDROOM	187 189 191	10	14x12	1470	950	950	40% P.G.	55.0	85.0	140.0	113.8	24.3	2.00	PRICE	SDV	2
VAV-3-33	CHAPEL CORRIDOR	640 C600B	12	16x16	1910	875	875	40% P.G.	55.0	55.0	140.0	115.9	0.0	2.00	PRICE	SDV	2
VAV-3-34	OFFICE ADL KITCHEN SALON QUIET/COMFORT CORRIDOR	646 648 650	5	12x8	200	90	75	40% P.G.	55.0	85.0	140.0	130.1	2.3	0.50	PRICE	SDV	2
VAV-3-35	CORRIDOR	OSCOC COOLD	16	20x18	4125	1910	1550	40% P.G.	55.0	85.0	140.0	113.7	48.8	4.00	PRICE	SDV	2
VAV-3-7A	ELECTRICAL ROOM	113	5	12x8	325	COOLING ONLY	100					-		-	PRICE	SDV	COOLING O
VAV-3-36	MECHANICAL EQUIP. PLATFORM	AREA C	12	16x16	2050	1010	625	40% P.G.	55.0	85.0	140.0	112.2	25.8	2.00	PRICE	SDV	2

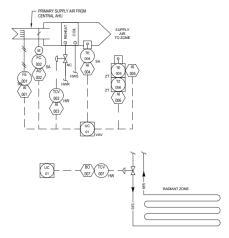
Digital Validation



Points & Sequences

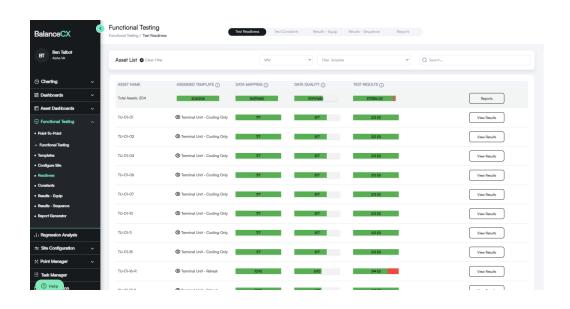
Controls Submittal

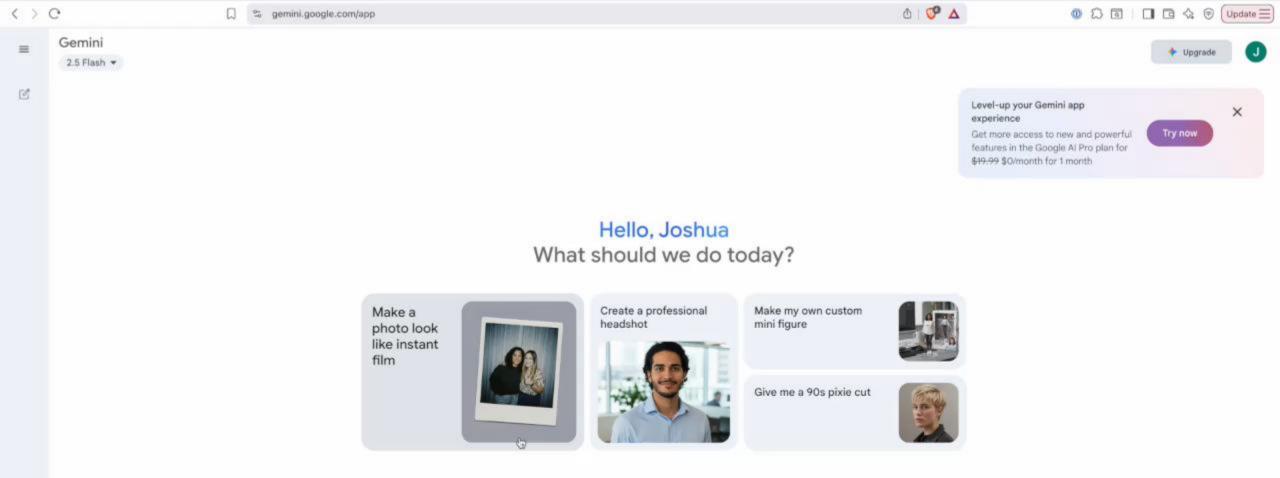




OPERATIONAL INTENT FOR TERMINAL UNIT WITH REHEAT AND RADIANT FLOORING SYSTEM DESCRIPTION The system consists of a thermal control zone with embedded radiant heating tubing in the floor Heating - Radiant floor shall be utilized to provide heating to the space. Upon a drop in space temperature below setpoint minus differential (ie 2 deg F), open control valve of the radiant floor and a manufacturer's packaged terminal air unit with hyrdonic reheat coil, complete with factory mounted and wired electronic controls and return mounted and wired electronic controls and return out of space temperature service. Seption adjust such space temperature service. Seption adjust service space service servi heat zone associated with VAV terminal unit. Upon rise in radiant floor temperature to within deg (adj) of space temperature setpoint close control valve of the radiant floor heat zone associated with VAV terminal unit. Differentials of radiant zone active/inactive shall be tuned during startup/commission phase to eliminate overshoot after slab heat valve is closed. During heating mode, the VAV terminal unit shall be position at minimum CFM ventilation rate and provide neutral supply air temperature to the space. Modulate reheat valve as necessary to achieve neutral discharge air temperature. Cooling - Upon rise in space temperature from setpoint to above setpoint. Reheat valve shall be modulated closed to reduce supply air temperature from neutral to AHU discharge temperature. Upon continued rise in space temperature above setpoint plus differential (ie 2 deg F), increase air flow setpoint (target CFM) for terminal unit, and open control damper accordingly to provide target CFM.

Controls Readiness Dashboard







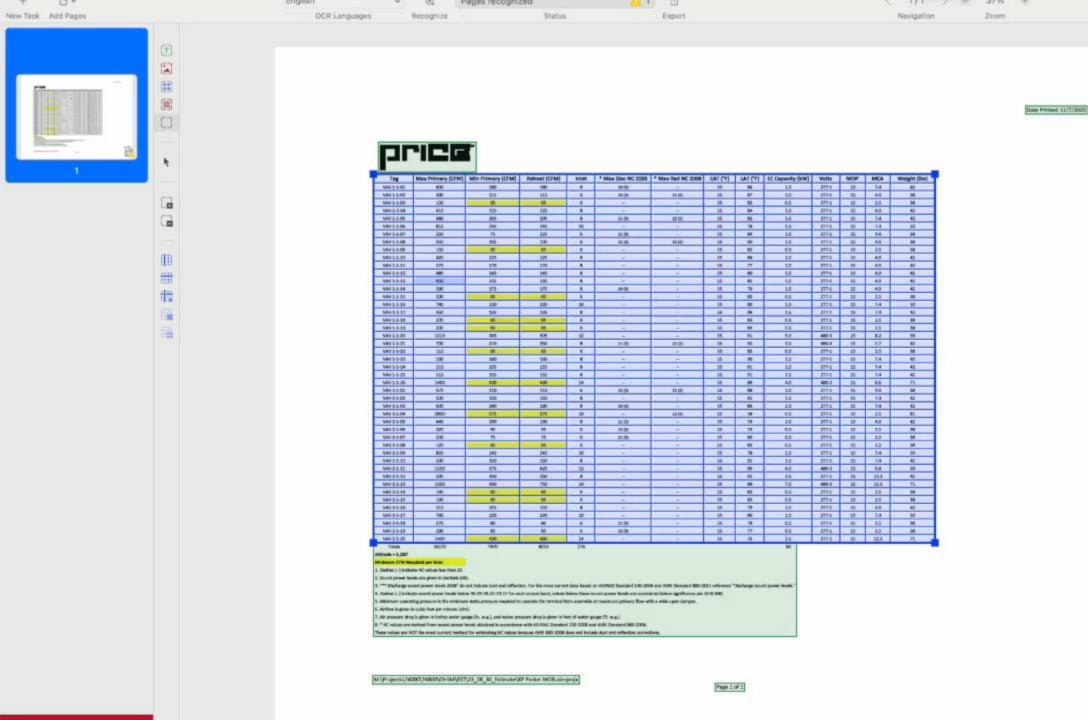


Image Editor

Operations

- Energy Efficiency Measure Generator (Chat GPT)
- Using AI to make sense of sensor data (BalanceCx with Chat GPT)





Energy Efficiency Measure Generator

By Ben Talbot &

Upload information about HVAC equipment, and get a variety of improvement recommendations that range from capital upgrade options, to sequence of operations recommendations, to current alarms or faults.

