System Requirements Document for 7965-S42

Figure 0-1 Constellation Rack

Table 0-1: Document Version

Version	Version Date	Author	UCD Identifier
6.2	4/06/23	Jesus Villarreal	UCD_Constellation

Table 0-2: MTM details

MTM	Internal Name	Published Name	Announce Date	GA Date
7965-S42	Constellation Rack	42U SLIM RACK	~~August 1, 2017~~ July 13, 2017	July 23, 2017

Chapter 2: Journal of Changes

Table 2-1: Journal of Changes

Date	Version	Description of Changes	Author
4/6/23	6.2	5/9/23 1. per GPEPR-5607, Announce date of Shipping and handling code (#AKCH and #AKNC) has changed to 5/9/23 and valid only in US/Can GEO. #ESC0 and #ESC1 will still be valid on all GEOs except US/CAN. 2. per GPEPR-5626, Added rule in Chapter 14.2 that #ECRK (rack extender) is required when #ECLS (copper cable) is ordered with Denali (9080-HEX).	Jesús Villarreal
3/24/23	6.1	4/11/23 3. per GPEPR-5427, Added new Shipping and handling code (#AKCH and #AKNC) and noted that #ESC0 and #ESC1 are no longer valid on S42 as of 4/11/23.	Jesús Villarreal
2/05/23	6.0	4/11/23 1. per GPEPR-5135, Updated Server Power Requirements Table link in Chapter 14 to include Splitter power consumption data. 10/24/23 1. per GPEPR-4243, The following updates were done on section 14.2: (1) added rack content specify code (#ERCU) for Nimitz (2) updated #ER19 (reserve adjacent space for MEX or Nimitz) description to state that it also applies to Nimitz and (3) updated notes 10, 12 and 13 to reflect that same racking rules used for Nimitz will be used for Mex. Update: per GPEPR-5254...added reference note in section 7.1 that #ECR2 will be password protected starting on 2/28/23. This has already been covered in an item by Jim Johnstone and included here for reference only.	Jesús Villarreal
11/14/22	5.9	4/11/23 1. per GPEPR-5135, Moved #ERCP (Splitter Rack Content Specify) from 4/25/23 to 4/11/23.	Jesús Villarreal
9/22/22	5.8	4/25/23 1. per GPEPR-4958, Moved #ER0L (#ETF6 RACK CONTENT SPECIFY CODE) from 10/11/22 to 4/25/23 2. per GPEPR-4942, Added rule that 9043-MRX (Everest) with #ECLS (CXP4 copper cable) in S42 rack requires #ECRK (rack extension) ordered with rack.	Jesús Villarreal
9/16/22	5.7	10/11/22 1. per GPEPR-4897, Moved #ERCP (Splitter Rack Content Specify) from 10/11/22 to 4/25/23.	Jesús Villarreal
8/19/22	5.6	09/13/22 1. per GPEPR-4755, -Updated Everest power consumption data on Server Power Requirements Table link in Chapter 14.4. -Added rule in Chapter 14.5 to allow 26.4amps on pdu linecords #6654, #6655, #6658 or #ELC1 when a pair of Everest power supplies are connected to a pdu ordered with those linecords.	Jesús Villarreal

8/09/22	5.5	10/11/22 1. per GPEPR-4766 , Moved #ER0L (#ETF6 RACK CONTENT SPECIFY CODE) from 11/ 08/22 to 10/11/22. 2. per GPEPR-4654, Moved #ERCP (Splitter Rack Content Specify) from 11/08/22 to 10/11/ 22	Jesús Villarreal
5/5/22	5.4	07/12/22 1. per GPEPR-4384, Moved #ER0L (#ETF6 RACK CONTENT SPECIFY CODE) from 7/12/ 22 to 11/08/22. Note: Already released jira items (G-10683) were updated with the new date so no new items are being released.	Jesús Villarreal
4/7/22	5.3	5/3/22 1. per GPEPR-4235 , moved Rack content specify codes for Rainier from 5/3/22 to 7/12/22: #ER3D, #ER3B, #ER39 and #ER3A. 2. per GPEPR- 2811 - Striked-through rack content specify code for the 9105-42B (#ER3C) because the 9105-42B will not be announcing. This is a miss from last year. Fix: Striked-through Power 10 systems as supported in #ECR0 chapter (Chapter A).	Jesús Villarreal
3/8/22	5.2	5/3/22 1. 1. Updated Server Power Requirements Table link in Chapter 14 to include Rainier 2U, Rainier 4U power consumption data. 7/12/22 1. 1. Updated Server Power Requirements Table link in Chapter 14 to include Everest power consumption data.	Jesús Villarreal
3/1/22	5.1	7/12/22 1. per GPEPR-4044 , -updated date of #ER3E (Rack Content Specify code for Everest) from 5/3/22 to 7/12/22 2. per GPEPR -3941 - Added #ER0L (rack content specify for #ETF6) Fix: per GPEPR-3354 - Changed 9040 machine type of Everest to 9043.	Jesús Villarrea
12/06/21	5.0	11/08/22 1. per GPEPR-3645 , Added #ERCP (Rack Content Specify code for Splitter).	Jesús Villarrea
11/10/21	4.9	11/23/21: 1. per GPEPR-3647,Added #ERP0 (RPO ORDER IDENTIFICATION) to the Miscellaneous section. This was covered in tactical li: (G-8445).	Jesús Villarrea
10/30/21	4.8	For 11/23/21: 1. per GPEPR-3429, Updated rule in Table 14-3 that said that #ECRB or #ECRD (acoustic rear doors) are not allowed in Fleetwood (9080-M9S) or Denali (9080-HEX) to just Fleetwood. #ECRB or #ECRD are now allowed Denali. Note: #ECRD is now withdrawn but included here for completeness. This change was already covered in Denali update(G-7608) so no Jira items were released for this BI change.	Jesús Villarreal

09/26/21	4.7	For 10/12/21 1. per GPEPR-3394, Added #0274 (Oliver drawer) rack content specify code. This was covered in tactical li: R-3422 For 11/23/21: 1. per GPEPR-3440, Added #ECRQ (RUGGEDIZED KIT W/ RAISED FLOOR BOLT DOWN HARDWARE FOR S42 RACK). Added clarification that #ECRR includes bolts for non-raised floors <u>Fix:</u> Fixed typo on amperage column of #ELC1 to be 24amps as in linecord description.	Jesús Villarreal
07/27/21	4.6	9/08/21 1. Updated Server Power Requirements Table link in Chapter 14 to include Denali (9080-HEX) power consumption data. Clarification: Added note to section 4.1 that R. Vossberg confirmed that the depopulate rules used on the T42 rack still apply to the S42 rack.	Jesús Villarreal
07/13/21	4.51	Converted document to CEDP and moved 1164-95X rules to Chapter 22 from Railhawk BI. 9/08/21: 1. Ch 22.1 - Moved Denali features from 8/24 announce to 9/8 announce per GPEPR-3147 2. Chap 7, 13, 22.2 & Appendix A - Moved IO features from 8/24 to 9/8 announce per GPEPR-3170 3. Removed random references to 50H and 80H which are not in plan to announce	M. Skibitzki
06/11/21	4.5	7/13/21: 1. per GPEPR-3011, Updated S42 front door rules to clarify that front doors are optional for both OEM and non-OEM orders. Fixes: Corrected announce dates of Denali Rack Content Specifiy codes (#ER44, #ER45, #ER46 and #ER47). This was covered in e-config item G-4294.	Jesús Villarreal
05/10/21	4.4	8/24/21: 1. per GPEPR-2829, Added new PDU linecords, #ELC1, #ELC2 and #ECJ6. 5/10/22: 1. per GPEPR-1304, Added #ER3E (Everest Rack Content Specify).	Jesús Villarreal
04/29/21	4.3	8/24/21: 1. per GPEPR-2695, Added #ECRT (FRONT DOOR (P10 VERSION HIGH-END APPEARANCE) front door to list of selectable front doors.	Jesús Villarreal
03/04/21	4.2	5/10/22: 1. per GPEPR-40, Added Rainier to list of MTMs that support the #ECR0 (S42 feature coded rack) in Appendix 1.	Jesús Villarreal
12/09/20	4.1	5/10/22: 1. per GPEPR-1095, Added Rack Content Specify codes for Rainier 2U (#ER39, #ER3A) and Rainier 4U (#ER3B, #ER3C, #ER3D).	Jesús Villarreal
10/29/20	4.0	4/13/20: 1. per GPEPR-2024- #ERAD and #ERAV were strikethrough because the Bono-S announcement was cancelled. 7/13/21: 1. per GPEPR-1146- Added Denali rack content specifies(#ER44, #ER45, #ER46, #ER47) and updated Fleetwood rules to include Denali. 2. Note: per GPEPR-1719, Added solution indicators #ELG1 and #ELG3. They are listed here for reference only. They covered in Jira items covered by Jim Johnstone.	Jesús Villarreal

09/28/20	3.9	10/06/20: 1. per GPEPR-1631- Added #EAP4, #EAP7, #EAP9, #EAPA, #EAPB and #ERC4 to the Misc Chapter. Note: These are “appliance only” FCs managed by Jim Johnstone. They are listed here for reference only. They are covered in Jira items assigned by Jim’s team. These FCs will not be listed in econfig.	Jesús Villarreal
08/19/20	3.8	4/13/21: 1. per GPEPR-1359, Added #ERCN (Rack Content Specify, 7063-CR2). 2. Noted that 7063-CR2 is supported for factory integration.	Jesús Villarreal
06/23/20	3.7	10/06/20: 1. per GPEPR-957, Updated description of #ER33 rack content specify code to state that on 10/06/20 it will also be used for the 9223-22S. Updated description of #ER35 rack content specify to state on that on 10/06/20 it will also be used for the 9223-42S. 2. Noted that 9223-22S/42S also support #ECR0 (feature coded version of S42)	Jesús Villarreal
04/14/20	3.6	5/26/20: 1. per GPEPR-874, Allow #ECRS (Flashsystem Front Door) as an optional front door on Power configs not just Storage configs. Noted: that #ECRS will also change from “initial” to “both”.	Jesús Villarreal
03/26/20	3.5	5/12/20: 1. per GPEPR-709, Increased maximums of #ERCZ (Zeppelin rack content specify) from 4 to 8	Jesús Villarreal
03/09/20	3.4	For 4/14/20: 1. per GPEPR-669, added #END5. This is the India version of the 6665 power cable already offered on the S42 for those cases when the power cable is not orderable with the racked device MTM. 2. per GPEPR-608, Moved date of ESS feature codes and #ERC9 (5105-22E rack content specify) from 4/14/20 to 7/7/20. ESS features are covered in J. Johnstone line items. They are listed here for reference only. For 10/13/20: 1. per GPEPR-674, Added #ERAD and #ERAV rack content specifies for Accelerator Expansion drawer announcing on 10/13/20	Jesús Villarreal
02/17/20	3.3	For 4/14/20: 1. per GPEPR-565, #ER0K (rack content specify for 7316-TF5) announce date is now 4/14/20 2. per GPEPR-52 changed maximum of #ER0K from 42 to 2 to lineup with TF5 RFA 75306 and defect 1978348	Jesús Villarreal
12/11/19	3.2	For 1/14/20: 1. Per RTC 1981171 and submitted EPIC, updated #ECR4 rule that stated either #ER1B or #ER2B were required with #ECR4. #ECR4 will now require #ER2B. For 2/11//20: 1. Per RTC 1975937, added features to Chapter 13 that will be used only for Storage Flashsystem Rack Solution: #ECRS, #FSRS, #RTSM, #ERCH, #ERCJ, #ERCK, #ERCL, #ERCM. This has been already been covered in one of Jim Johnstone’s line items. These features announce on 1/14/20 but supported in Storage econfig on 2/11/20.	Jesús Villarreal
11/14/19	3.1	For 4/14/20: 1. Per RTC 1929159, added features to Chapter 13 that will be used only for ESS 5000 Solution: #ERC9, #ERCA, #ESCF, #ESCG, #ESCH, #ESCJ, #ESCK, #ESCL, #ESCM, #ESCN, #ESL1, #ESL2, #ESL3, #ESL4, #ESL5, #ESL6. This has been already been covered in one of Jim Johnstone’s line items.	Jesús Villarreal
10/25/19	3.0	For 10/22/19: 1. per RTC 1965973 – updated date on ECJ6 (caja linecord) from 10/22/19 to TBD. This was covered in tactical line item 1LG9. 2. Fix/improvement: Added clarification that no mixing of potencia and caja pdus also applies to non-factory integrated orders. This is already being enforced in econfig. For 11/26/19 1. per RTC 1966881, Noted that Caja PDUs with Amphenol connectors and their required linecords are not supported in Hong Kong/China and that a warning will be issued. This was covered in line 1LGR. For 1/14/20: 1. per rtc 1965916, updated date of #ER0K (7316-TF5) rack content specify from 10/22/19 to 1/14/20.	Jesús Villarreal

8/01/19	2.9	For 10/08/19: 1. per RTC 1930415 and 19311595, added new ESS solution specify codes in Miscellaneous Chapter: #EGLA, #EGLB, #EGLC, #EGLD, #EGLE, #EGLF and #ERCC. These are listed for reference only, detailed requirements are covered in ESS line items owned by Jim Johnstone. For 10/22/19: 1. per RTC 1941554, added 7316-TF5 rack content specify code: #ER0K.	Jesús Villarreal
7/01/19	2.8	For 10/22/19: 1) per RTC 1916965, – Added new Caja PDUs: #ECJN, #ECJJ, #ECJQ, and #ECJL. – Added new amphenol linecords (#ECJ5, #ECJ6 & #ECJ7) required for #ECJQ and #ECJL. – Updated PDU rules in Chapter 13 to include Caja – Consolidated rules for PDUs ordered with servers in Appendix 1 to avoid having one set of rules for each PDU type: pre-potencia, potencia and now Caja. The intent is to make the pdu rules easier to follow. Update: 1. per EPIC EM190605 and RTC 1931120, increased maximum of #ECRK (rack extension) from 1 to 2 per 7965-S42 and #ECR0 (S42 FCed rack). This was covered in LI 1L8D for 7/23/19.	Jesús Villarreal
4/28/19	2.7	For 10/22/19: 1) per RTC 1901556, added rack content specify codes for ZZ -G Models: (#ER33, #ER34, #ER35).	Jesús Villarreal
2/05/19	2.6	For 4/23/19: 1. per RTC 1839895 and PCR 4426, added #END0, #END1, #END2, #END3, #END5, #END7, and #END8 new India power cords for reference. They were added next the power cords that they will be replacing for India installed systems starting on 4/23/19. For 3/12/19: 1. For reference only. Per RTC 1854878, added #ESZV and #ESZW ESS solution specifies.These are covered in solution line items owned by J Johnstone's team.	Jesús Villarreal
10/12/18	2.5	For 11/06/18: 1. per RTC 1805130, added rule to default acoustic front door (#ECRA) on S42 orders that contain Fleetwood (9080-M9S/9222-80H) except when #ECRR (ruggedized kit) is on the order. If #ECRR is on the order continue to default non-acoustic door (#ECRF).	Jesús Villarreal
9/07/18	2.4	For 10/09/18 1. per RTC 1774106, added #ER2L (Rack Content Specify: 8831-00M) for use with ESS solution. 2. per RTC 1788117, Removed note that Zeppelin is field merge only.. Zeppelin will be factory integratable starting on 10/9/18. For 10/23/18 1. per RTC 1785677, updated pairing of PDUs of water manifold racks (#ECR2, #ECR3) ordered with #ERLR. Vertical PDUs will only be paired with Vertical PDUs and horizontal pdus will only be paired with horizontal pdus.	Jesús Villarreal
7/19/18	2.3	For 8/07/18: 1. per RTC 1757054, – Added Note that Zeppelin is field merge only on the 7965-S42 amd 7014-T42. – Reduced Max of #ERCZ (rack content of Zeppelin) from 8 to 4 to match RFA For 8/14/18: Note: 8/7/18 is preferred if possible. 1. per RTC 1761650: – Added statement that the amount of EIA space consumed in a rack by factory integrated witherspoons will be: 2x # of Witherspoons plus 1. – Changed placement of Witherspoons to be able to enforce the 1 EIA of empty space requirement. 8/06/18 Note: Corrected description of #ECL0 in Miscellaneous chapter. Already covered in line item 1K8J.4	Jesús Villarreal

07/09/18	2.2	For 08/7/18 1. per RTC 1756213: – Correct description for #ERC7 to reflect that it is rack content specify code for GTW not GTC. – Update rule to also require water-cooling manifold for #ERC7. 2. per RTC 1756251: – Add rule to not allow #ECRB or #ECRD (acoustic rear doors) with Fleetwood – Add #ECRA (acoustic front door) as orderable on Fleetwood orders that contain #ECR0 (FCed S42). #ECRA will also be the default for #ECR0 ordered with Fleetwood. 3. per RTC 1738099, added #ECL0 (Coral Light Solution Indicator) to Miscellanous section.	Jesús Villarreal
06/18/18	2.1	For 08/07/18 1. per PCR 4421 and RTC 741769, Added the following rack content specify codes for Witherspoon systems : #ERC5 (8335-GTG), #ERC6 (8335-GTH), #ERC7 (8335-GTC) and #ERC8 (8335-GTX) 2. per RTC 1740343, updated racking rules for Zeppelin (9040-MR9/9225-50H) per request from development.	Jesús Villarreal
04/23/18	2.0	For 07/24/18 1. Added 9225-50H in areas where it was missing to indicate that the same rules that apply to the 9080-MR9 apply to its SAP Hana version (9225-50H).	Jesús Villarreal
3/23/18	1.9	For 04/24/18 1. per revisit to RTC 1668525, added FC 777A (Inspur Power Indicator) announcing on 4/24/18. This was already covered in tactical line item 1JZZ. For 6/12/18 1. per RTC 1680779, updated maximums of #ER0A from 6 to 4 to match feature matrix and EPIC 4643. This was covered in Solutions line item 1JYN	Jesús Villarreal
03/02/18	1.8	For 4/10/18 1. per revisit to RTC 1651730, removed #0198 (rack content specify 9910-E37). It will no longer be announcing. It was scheduled to announce on 4/24/18.	Jesús Villarreal
2/04/18	1.7	For 3/13/18 1. per RTC 1659069, Updated descriptions of pdu linecords (#6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, #6658, #6667) to match feature matrix descriptions. Added Rated Amperage values for PDUs with fixed linecords (#EPTL, #EPTQ, #7196) in the cabling section.	Jesús Villarreal
1/26/18	1.6	For 3/13/18 1. per RTC 1651730, change rack content specify FC 0198 for new 9910-E37 UPS announcement has moved from 4/20/18 to 4/24/18.	Jesús Villarreal
1/09/18	1.5	For 1/23/18 1. per RTC 1631375, updated announce date of ZZ rack content specifies (#ER2V, #ER2W, #ER2X, #ER2Y) from 1/23/18 to 2/13/18. For 03/13/18 1 1. per RTC 1641834, change rack content specify FC 0198 for new 9910-E37 UPS announcement has moved from 3/13/18 to 4/20/18. For 4/24/18 1. per RTC 1641737, updated announce date of Zeppelin rack content specifies (#ERCZ) from 4/24/18 to 07/24/18	Jesús Villarreal
12/06/17	1.4	For 1/23/18 1. per RTC 1626256, changed rack content specify FC 0198 for new 9910-E37 UPS announcement from 1/23/18 to 3/13/18.	Jesús Villarreal
11/16/17	1.3	For 1/23/18 1. Added ZZ clone MTMs to ZZ rack content specifies: #ER2V/#ER2Y. For 4/24/18 1. Added Zeppelin clone MTMs to Zeppelin rack content specifies: #ERCZ. For 08/14/18 1. Added rack content specify codes for Fleetwood: #ER40, #ER41, #ER42 and #ER43.	Jesús Villarreal
11/1/17	1.2	For 1/23/18 1. Added rack content specify FC 0198 for new 9910-E37 UPS announcement scheduled by Global Services for 1/23/18	Jesús Villarreal

10/23/17	1.1	For 11/21/17 1. per RTC 1574112, Added new Customer Service Specify (#ECSF) for Montpellier, France to Misc section (Chapt 19). 2. Updated information on #ECR0 (FC version of Constellation rack) in Appendix 1 to reflect what is already in econfig and coming updates to the sales manual description.	Jesús Villarreal
9/21/17	1.0	For 11/7/17 1. The following updates were made to Appendix 1 (#ECR0 rack requirements) per RTC 1575979: – Added 11/7/17 announce date for the #ECRM front door that will now be supported on Power 8 servers for use with #ECR0 racks. – Clarified that #ECRF is the only front door available for the #ECR0 until the #ECRM announces on 11/7/17. – After the #ECRM announces, the #ECR0 customer must choose an #ECRF door or an #ECRM door per #ECR0 rack ordered. #ECRF will continue to be the default. For 12/5/17 1. per rtc 1574070, In section 11.2, modified no mixing of PDU types in a single rack rule to state that mixing of PDU types is allowed on non_factory integrated orders.	Jesús Villarreal
7/27/17	0.9	For 1/23/18 1. Added new announce date for ZZ servers Rack content specify codes: #ER2V (9009-22A), #ER2W (9008-22L), #ER2X (9009-41A), #ER2Y(9009-42A). This 1/23/18 announce date lines up with the ZZ MTM announce date	Jesús Villarreal
7/10/17	0.8	Added Note that front and rear doors on S42 are now optional due to the poor quaility of the initial doors. This has already been implemented per line item 01J5M. For 10/10/17: 1. Added statement that Brazos (9119-MME/MHE, 9080-MME/MHE) and Alpine (8408-E8E/44E) will be field merge only. 2. Added statement that #ECRR (ruggedized kit) announcement has moved from 10/10/17 to 1/23/18. For 11/7/17: 1. Added #EB3Z (General Use Lift tool) for field installation of Power devices in 19” racks. For 4/24/18: 1. Added Zeppelin (9040-MR9) rack content specify (#ERCZ)	Jesús Villarreal
5/02/17	0.7	For 6/11/17 1. The announce date for ZZ servers originally planned for 7/11/17 is now TBD. This change drives the announce dates for the following FCS to change from 7/11/17 to 10/10/17 to align with the S42 support of Power 8 servers. 2. Customer specified rack placement: #0469. 3. Acoustic Front Doors: #ECRA, #ECRC 4. Acoustic Rear Doors: #ECRB, #ECRD 5. Rack Content Specifies: #0324, #ER0M, #ER19, #ERC0, #ERC1, #ER08, #ER09, #ER0A, #ER0G, #ER0W, #ER1C, #ER1D, #ER1H, #ER36, #ERC2 The following FCs are the ZZ server rack content specifies. Their announce date is moving from 7/11/17 to tbd. 1. #ER2V (9009-22A), #ER2W (9008-22L), #ER2X (9009-41A), #ER2Y(9009-42A)	Jesús Villarreal
4/20/17	0.6	For 6/13/17 1. Added missing rack content specify: #ER26 (8867-FM1/FM2) for Coral.	Jesús Villarreal
4/14/17	0.5	For 6/13/17 1. Changed announce date of #ER2R (Rack content specify for 8831-S48 switch) from 7/11/17 to 6/13/17 to support Coral. 2. Add rack content specifies #ER31 (8828-GU6), #ER37 (8828-G36 switch), #ER38 (8828-ER6 switch) and #ER1V (8831-S52 Switch) rack content specifies for Coral.	Jesús Villarreal

3/31/17	0.4	For 6/13/17 1. Moved announce date of S42 rack from 8/01/17 to 6/13/17 in order to support Coral. The GA also moved to 6/23/17. The majority of features will announce in 6/13/17. The list of FCs announcing on 6/13/17 are listed in line item: 1HW2. 2. Added new basic front door FC ECRM. 3. Added Coral bid restricted PDU: #EPTT For 7/11/17: 1. Added announce dates to FCs announcing on 7/11/17 to support ZZ announce. 2. Allowed basic door (#ECRM) as orderable with #ECR0 (FC version of Constellation) in Appendix 1. 3. Added #ERC2 (HMC-Stratton) Rack Content specify code. For 10/10/17 1. Added announce dates to FCs announcing on 10/10/17 to support Power 8 servers.	Jesús Villarreal
2/03/17	0.3	1. Updated Rack Content Specifies (#ER2X, #ER2Y, #ER2V, #ER2W) with new machine types for ZZ models. Changed MT 8375 to 9009 and MT 8379 to 9008. 2. Updated description of #ECRP. It has been renamed to “Airflow Management Kit for S42 Rack” from “OPTIONAL SIDE ACCESS PANEL FOR S42 RACK”. Qty1 provides airflow management kit for 1/2 of rack as required by Coral bid. 3. Added optional Ruggedized Kit w/Bolt-Down Hardware FC: #ECRR. 4. Added Coral Rack indicator codes: #EDCL, #EDC0, and #EDCS.	Jesús Villarreal
12/16/16	0.2	1. Added Acoustic Door (#ECRB) as valid rear door selectable as part of min config. 2. Clarified in Chapter 20 that doors are required only on IBM (non-OEM) configs. 3. Added 8284-21A (Low Cost Tuleta) rack content specify code.	Jesús Villarreal
11/17/16	0.1	Initial Release of Constellation Rack BI	Jesús Villarreal

Chapter 3: Links to related documents

Table 3-1: Feature code links in Feature Matrix

MTM	Link
7965-S42	https://w3-50.dal.cpc.ibm.com/tools/featurematrix/pageAccessFilter.wss?brand=pSeries&invGroup=eServer&pageVar=_7965S42.HTM&appState=PSERIES_ESERVER&pageHeading=Individual%20feature%20matrix

Chapter 4: System Overview and Minimum Orderable Configuration.

4.1 System Description

Table 4-1: System Description

7965-S42 Rack
This is a 19" rack cabinet that provides 42U of rack space for use with POWER9 rack-mounted, non-blade servers and I/O drawers. Aside from having a signficantly lower cost than existing Power 19" Rack (7014-T00/T42), this 600mm wide rack fits within a data center 24" floor tiles and provides better thermal and cable management capabilities. Another one of the differences between S42 rack and the T42 rack is that the “top hat” is on the 40U and 41U boundary instead of the 36U and 37U boundary in the T42 rack.
The IBM power distribution units (PDU) are mounted vertically in four (4) side bays, two (2) on each side. After the side bays have been filled, PDUs can be mounted horizontally at the rear of the rack. Filler panels are mounted in the front of the rack in empty EIA locations. To allow maximum airflow through the rack cabinets, the S42 rack offers perforated front and rear door designs.
Ballasts for additional stability will be available on the S42. As such, it is expected that S42 racks will not require the depopulate rules at the 32 EIA location as was done with T42.. The details for the assignment of the ballasts are still pending Note: B. Vossberg has confirmed that the depopulate rules that are used on T42 still apply to the S42.

4.2 Basic System Components (not feature numbers)

Table 4-2: Basic System Components

Description	Quantity
Processors Orderable min to max way, speeds	N/A
Processor Cards min/max	N/A
Total Memory min/max, **Memory Cards** min/max, **DIMMs** min/max	N/A
Desktop, Deskside, Rackmnt, Rack, or ?	42U Rack
I/O Drawers min/max	N/A
Other Drawers Announced min/max	N/A
Adapter Slots per Cec or Drw short/long	N/A
Media Bays standard/shared/ size	None
DASD Bays boot non-hs/standard hs	None

4.3 Number/Type of Integrated Devices

Table 4-3: Integrated Devices

Description	Quantity
Integrated Where? CEC, IO Drw?	None
Internal SCSI type/buses/ports	None
External SCSI type/buses/ports	None
Serial Ports	None
Ethernet Ports	None
Parallel Ports	None
3.5" Diskette	None
Keyboard/Mouse Ports	None
Other	None

4.4 Other Characteristics

Table 4-4: Other Characteristics

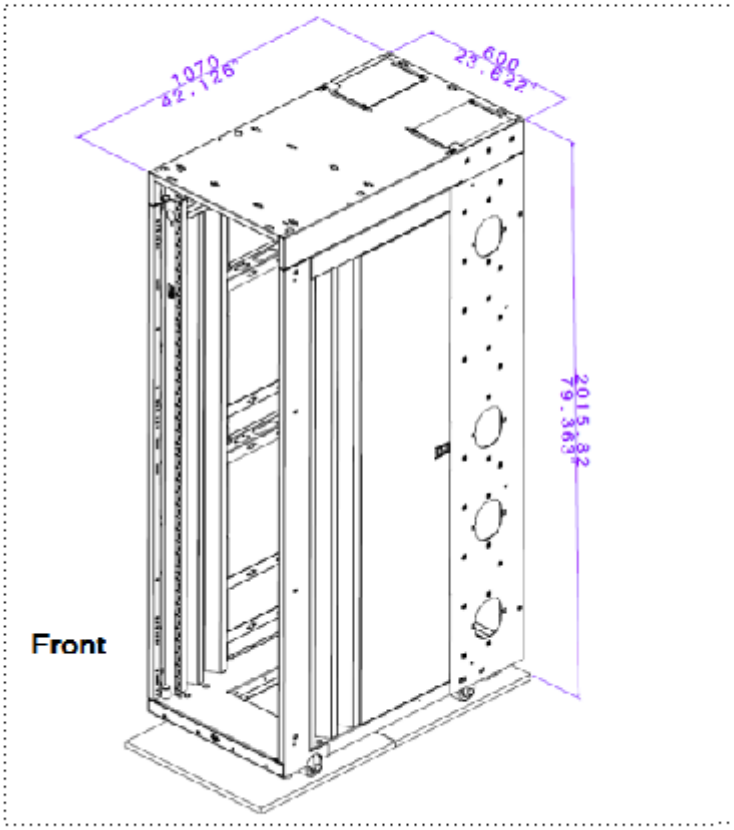
Description	Quantity
HA Version Supported (y/n)	N/A
DC Power Option (y/n)	TBD
Redundant Power (y/n)	Multiple-PDUs can be ordered as required for redundancy
OEM Version Supported(y/n)	Yes
Cover Colors (list)	Black
Other (list)	No

Chapter 5: System diagrams and labels

5.1 Constellation Rack Views:

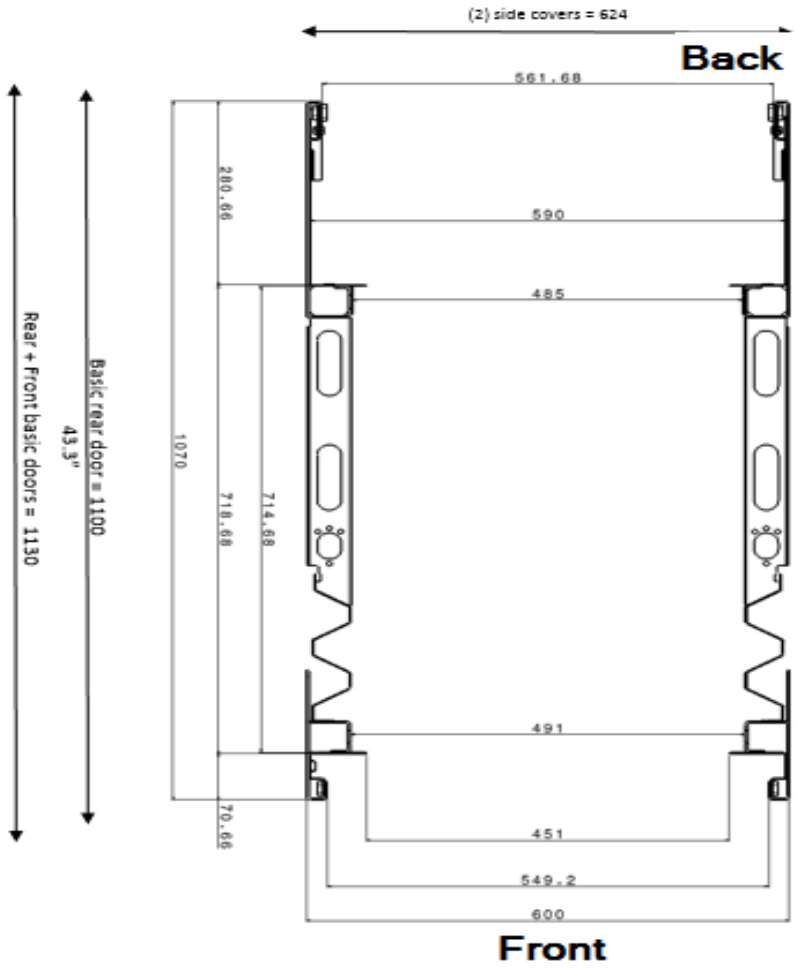
Figure 5-1 Rack View

Constellation Rack with High-end appearance side covers (ECRH). This is the right side of the rack when viewed from the Front.



Overall Design Dimensions of Constellation Rack

Figure 5-2 Key Constellation Rack Dimensions



Chapter 6: MTM Conversions

Description: N/A

Chapter 7: Minimum Orderable Configuration.

7.1 7965-S42 Minimum Orderable Configuration (initial order sample of least expensive working system; minimal selections)

Table 7-1: Minimum orderable configuration

Base or Feature	Description	Feature Quantity	Placement	Notes or announce
Base	Base 42U Rack	N/A	N/A	5
#ECRT	FRONT DOOR (P10 VERSION HIGH-END APPEARANCE) FOR S42 RACK	0 or 1	Front of Rack	1 ~~08/24/21~~ 09/08/21
#ECRM	FRONT DOOR (BLACK/FLAT) FOR S42 RACK	0 or 1	Front of Rack	
#ECRS	FLASHSYSTEM FRONT DOOR RACK	0 or 1	Front of Rack	1
#ECRF	FRONT DOOR (HIGH-END APPEARANCE) FOR S42 RACK	0 or 1	Front of Rack	2
#ECRA	ACOUSTIC FRONT DOOR (BLACK) FOR S42 RACK	0 or 1	Front of Rack	
#ECRG	REAR DOOR (BLACK/FLAT) FOR S42 RACK IBM/OEM	0 or 1	Back of Rack	
#ECRB	ACOUSTIC REAR DOOR FOR S42 RACK	0 or 1	Back of Rack	
#ECR2	HEAT EXCHANGER REAR DOOR INDICATOR FOR S42 RACK	0 or 1	Back of Rack	2, 3, 6
#ECRJ	SIDE COVER KIT (BLACK) FOR S42 RACK	0,1 or 2	Side of Rack	3, 4
#ECRH	HIGH-END APPEARANCE SIDE COVER FOR S42 RACK	0,1 or 2	Sideof Rack	
#ECR1	SIDE/SIDE ATTACH KIT (BLACK) FOR S42 RACK	0,1, or 2	Side of Rack	
#AKCH or #AKNC	Shipping and Handling (Standard) Shipping and Handling (Premium)	1	NA	7

Notes	Details
1	Note: Already available with storage configs; will be available for Power starting on 5/26/20
2	~~Must pick one of the following Front Doors.~~ Front doors are optional for all S42 orders (OEM and non-OEM) but will be defaulted on. If P10 systems are on the S42 order default #ECRT otherwise default #ECRF.~~Feature #ECRF will be the default front door~~ . See section 22.0.1 for exception in rules section a. ~~This rule has been temporarily suspended due to the poor quality of initial doors. Both the front and rear doors are now optional until further notice. See OPTDB line item 01J5M.~~
3	If #ECR2 is in the S42 order then a 1164-95X (heat exchanger door) must be added to the order See See “1164-95X Dagger Rules” on page 53for more information
4	Side covers and the side attachment kit are optional. Feature #ECRJ = 2 will be the default side cover. Sum of #ECR1, #ECRH and #ECR1 must be less than or equal to 2.
5	PDUs are optional with the S42 rack. See Chapter 13 for available PDUs.
6	As of 2/28/23, #ECR2 of the 7965-S42 and 1164-95X will be password protected in econfig. The customer contact for the password (heatdoor) will be: Jim Johnstone, jamesgj@us.ibm.com

Base or Feature	Description	Feature Quantity	Placement	Notes or announce
Notes	**Details**			
7	• ~~Announce April 11, 2023. All initial orders for S42 will contain one of these features after that date, old #ESC0/ #ESC1 features are no longer valid.~~ • Starting on 5/9/23, all initial orders for S42 in US/CAN Geos will contain either #AKCH or #AKNC. All other GEOs will contain either #ESC0 or #ESC1. • All initial orders S42 must contain either #AKCH or #AKNC, they are mutually exclusive. See rules below for defaulting and when #AKNC is required. --For S42, the max quantity is 1 and initial order only as all S42 orders are initial order. • If the configuration is with an S42 rack and the rack contains #9002, configurator default is #AKCH (Standard) on all MTMs, user can optionally choose #AKNC (Premium) instead on any or all MTMs in the configuration. • If the configuration is ordered with an S42 rack AND contains any of #4651 through #4666: -- e-config will DEFAULT #AKNC (Premium) on all MTMs in the configuration including the S42. -- For each MTM that contains any of #4651 through #4666 (meaning it will be factory integrated in the rack), both the S42 rack and the server MTMs that have #4651 through #4666 will REQUIRE #AKNC (Premium). User is NOT allowed to change to #AKCH (Standard) on those MTMs. **Reference only:** While these features will be ~~announced worldwide~~ announcing in US/CAN Geos only, downstream from configurators other teams like iERP will be applying either the old or the new pricing depending on geo. If we get questions why the pricing is so different based on geo, this is likely why.			

Chapter 8: CPU Logic group

Description: N/A

Chapter 9: Memory Cards and DIMMs

Description: N/A

Chapter 10: Storage Devices

Description: N/A

Chapter 11: Adapters

Description: N/A

Chapter 12: CEC or CPU to I/O cabling

Description: N/A

Chapter 13: Internal Power and cooling for CEC and I/O

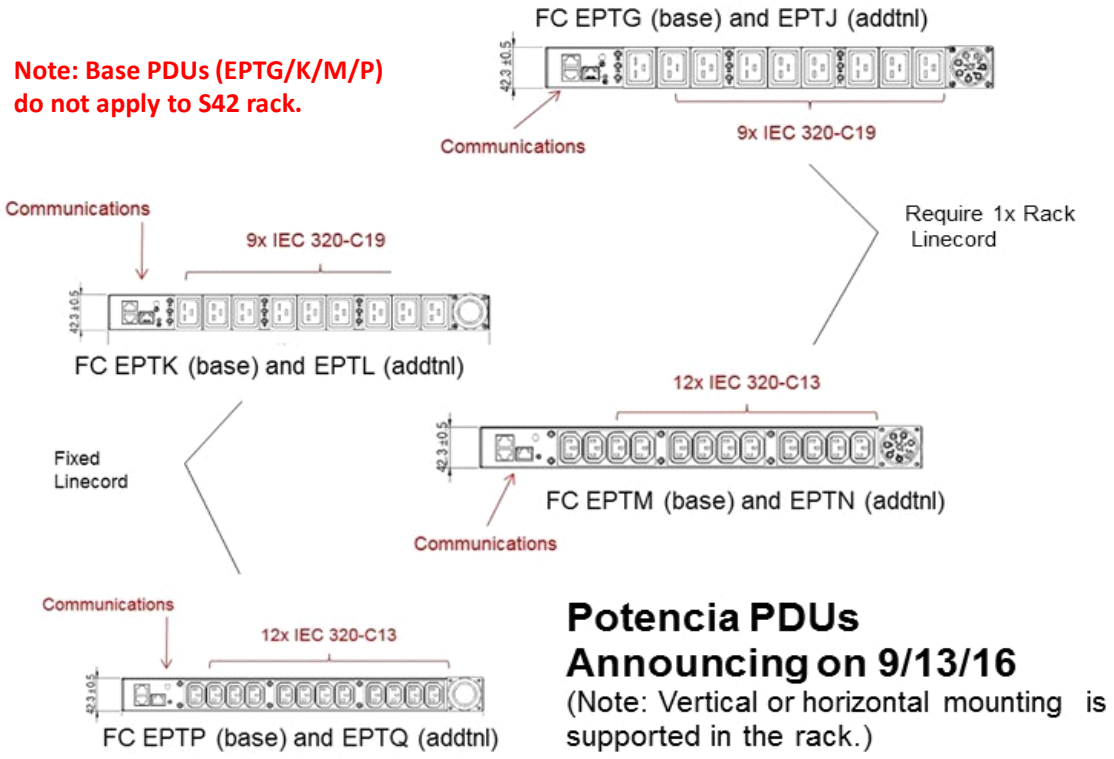
13.1 Description:

Table 13-1: Power and cooling rules

Description
The following PDUs and linecords are orderable with the S42 rack. There are 9x IEC320-C19 outlets per each #EPTJ/ #EPTL PDU and 12xIEC320-C13 outlets per each #EPTN/#EPTQ. Each single outlet is limited to 20 amps. The circuit breakers, outlets and inlets of the PDU are on the same side and face the rear of the rack.

13.2 Diagrams / Location IDs:

Figure 13-1 Diagrams and Location IDs



13.3 PDU Rules

Table 13-2: General PDU Rules

Description
The PDU in the 7965-S42 Rack is optional unlike the T00 and T42 racks. Rack PDU to Wall linecords are required for #7188, #EPTJ, #EPTN and #ECJJ, #ECJL, #ECJN, #ECJQ PDUs. The #EPTL and #EPTQ PDUs have a fixed linecord
For orders that do not contain MEX drawers (#EMX0/#ELMX), Zeppelin (9040-MR9) or Everest (~~9040~~ 9043-MRX), 1U of rack space is consumed for each PDU ordered beyond four (4) because horizontal PDU placement is required. This means that the EIA capacity of the rack is reduced by the number of PDUs ordered beyond four (4). If a non-CSP order (#0469) contains MEX drawers, Zeppelin systems (9040-MR9) or Everest (~~9040~~ 9043-MRX) then all PDUs must be placed horizontally. CSRP (#0469) orders allow vertical placement of PDUs but the PDUs cannot be placed adjacent to the #EMX0/#ELMX drawer, Zeppelin (9040-MR9) or Everest (~~9040~~ 9043-MRX) locations in order to avoid PDU accessibility issues.
All PDUs on a rack order must have the same linecord from the PDU to the wall. The only exceptions are the #EPTL and #EPTQ PDUS since a linecord is not selectable with these PDUs.
On future MES orders the selected PDU to Wall cord can be different than what was chosen on the initial order, but all must be the same on the MES order.
#ELC0 - 0.38M, WW, UTG to UTG INTERNAL JUMPER CORD (PIGTAIL). – One Pigtail must be ordered with every vertical mounted #7188, #EPTJ, #EPTN, #ECJJ and #ECJN PDU the S42 rack. – #ELC0 is not supported on PDUs with Amphenol connectors: #ECJL and #ECJQ. There is no pigtail available for PDUs with the Amphenol connector. – Pigtail is not required with horizontal PDU in the rack – Client can deselect pigtail only if there is enough space to place PDU horizontally in the rack. – Above rules apply to both initial and MES orders..
The PDU placement rules will be the same as they are today on T42, namely, the vertical slots will be filled first in the following sequence: 1, 2, 3, 4. See PDU diagram in section 13.4 for exceptions. – The same #ERLR rules that apply to T42 will apply to S42. – Horizontal placement of PDUs will be the same as T42. See PDU diagram in section 13.4 for more horizontal placement detail. – Vertical slots #2, and #4 are not available when water cooling manifolds (#ECR3 or #ECR4) are ordered. – Non-CSRP factory rack integrated orders of #EMX0/#ELMX drawers require horizontal placement of PDUs (#ER14). CSRP (#0469) orders allow vertical placement of PDUs but the pdus cannot be placed adjacent to the #EMX0/#ELMX drawer locations in order to avoid PDU accessibility issues. The vertical PDUs slots are located adjacent to the following EIA locations of the rack: 8 through 17 and 22 through 31 – If #ER14 is removed on rack orders containing servers with MEX drawers (#EMX0/#ELMX) then #0469 (CSRP) is required on the S42.

Table 13-3: Potencia and Caja PDU Rules

Description
Applies to Potencia PDUs (#EPTJ, #EPTL, #EPTN, #EPTQ), #7188, and Caja (#ECJJ, #ECJL, #ECJN, #ECJQ) only
Alpine PDQ (8408-44E), Zeppelin (9040-MR9) or Everest (~~9040~~ 9043-MRX) requires C19 PDUs to power the CECs. – If 44E or MR9/50H/MRX contains #4651-#4666 then the rack must contain one of following PDUs: #EPTJ (default) or #EPTL. Any additional qty of #EPTJ or #EPTL needed to support the qty of 44E/MR9/MRX in the rack will be defaulted on. – If 44E or MR9/MRX contains #4650 and ordered with a S42 rack, default on #EPTJ or #EPTL to the rack as well as any additional QTY of #EPTJ or #EPTL PDUs needed to support the qty of 44E/MR9/MRX ordered with the rack.

Mixing of C19 and C13 PDUs are only allowed only in rack orders that contain 8408-44E, 9040-MR9/MRX. This is also allowed on S42 racks that contain #EDCS as documented on the Coral rules document. If C13 PDUs are mixed with C19 PDUs for MTM rack orders that contain 44E/MR9/MRX then the C19 PDUs will be used for the 44E CECs and C13 PDUs will be used for the I/O drawers (eg Slider, MEX or Splitter) ordered with the 44E/MR9/MRX. If C13 PDUs are ordered for the 44E/MR9/MRX I/O drawers then all the 44E/MR9/MRX I/O drawers must use C13 PDUs.

– Starting on 12/05/17, this “no mixing of PDU types“ rule applies only to factory integrated orders. S42 rack orders that do not contain #4651 through #4666 or contain #9002 (ship empty rack) are allowed to mix C13 and C19 PDU types.

Mixing of Potencia PDUs (#EPTJ, #EPTL, #EPTN, #EPTQ) and Caja PDUs (#ECJJ, #ECJL, #ECJN, #ECJQ) in the same rack are not allowed in Factory integrated orders (#4651-#4666 =1) and non-Factory integrated orders (#4650=1).

– Mixing of Caja PDUs (#ECJJ, #ECJL, #ECJN, #ECJQ) and #7188 PDU is allowed.
– Mixing of Potencia PDUs (#EPTJ, #EPTL, #EPTN, #EPTQ) and #7188 PDU is allowed.

Identical linecords are required in PDUs that are installed in the same rack in the factory. The only exceptions are the #EPTL and #EPTQ PDUS since a linecord is not selectable with these PDUs

Potencia PDUs #EPTJ/#EPTN and Caja PDUs #ECJJ/#ECJN require one of following PDU linecords: #6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, #6658, #6667, #ELC1 or #ELC2.

#ECJL and #ECJQ Caja PDUs use new (Amphenol) connector and require one of the following new linecords: #ECJ5, #ECJ6 or #ECJ7. Except for #ECJ6, these linecords are planned for announce on 10/22/19 along with the Caja pdus.

• Note: Caja PDUs #ECJL and #ECJQ and their required linecords #ECJ5, #ECJ6 and #ECJ7 are not supported in Hong Kong and China. A warning message will be posted in econfig.

Potencia PDUs #EPTL/#EPTQ have fixed linecords and therefore do not require a linecord on the order.

Devices connecting to #EPTJ/#EPTL/#ECJJ/#ECJL PDUs require FC #6665/#END5, #4558/#END8 or #ELC5/#END7 power cables as part of server order.

#EPTH provides optional horizontal mounting hardware for those customers that want to move their vertically mounted PDUs to be horizontally mounted. As such, both initial and MES orders of #EPTH will be sent to the ship group. Horizontally mounting hardware on factory orders will be assigned automatically by NewC independent of the existence of #EPTH.

– On MES orders of #EPTJ, #EPTL, #EPTN, #EPTQ, #ECJJ, #ECJL, #ECJN and #ECJQ on S42 racks, econfig will default qty of #EPTH equal to sum of #EPTJ, #EPTL, #EPTN, #EPTQ, #ECJJ, #ECJL, #ECJN and #ECJQ on the order. Customer can deselect or reduce qty as desired.
– No #EPTH defaults will be set on initial orders of Potencia PDUs

Table 13-4: PDUs offered with S42 Rack

Feature Code	Description	min	max	Notes or Announce
#EPTJ	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A, 9XC19 OUTPUTS, SWITCHED, UTG624-7 INLET	0	no max	
#EPTL	ADDTNL PDU, US 3-PH 48A, 9XC19 OUTPUTS, SWITCHED, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	0	no max	
#ECJJ	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A WYE, 9XC19 OUTPUTS, SWITCHED, UTG624-7 INLET (CAJA VERSION OF EPTJ)	0	no max	10/22/19
#ECJL	ADDTNL PDU, US 3-PH 24A, 3-PH 40A, 3-PH 48A DELTA, 9XC19 OUTPUTS, SWITCHED, AMPHENOL INLET (CAJA VERSION OF EPTL)	0	no max	10/22/19
#ECJN	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A WYE, 12XC13 OUTPUTS, SWITCHED, UTG624-7 INLET (CAJA VERSION OF EPTN)	0	no max	10/22/19
#ECJQ	ADDTNL PDU, US 3-PH 24A, 3-PH 40A, 3-PH 48A DELTA, 12XC13 OUTPUTS, SWITCHED, AMPHENOL INLET (CAJA VERSION OF EPTQ)	0	no max	10/22/19
#EPTN	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A, 12XC13 OUTPUTS, SWITCHED, UTG624-7 INLET	0	no max	

Feature Code	Description	min	max	Notes or Announce
#EPTQ	ADDTNL PDU, US 3-PH 48A, 12XC13 OUTPUTS, SWITCHED, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	0	no max	
#7188	PDU, WW, 1-PH 24/48A, 3-PH 16/24A, 12XC13 OUTLETS, UTG0247 INPUT <7188 ON P>	0	no max	
Other hardware				
#EPTH	HORIZONTAL MOUNTING HARDWARE FOR AC PDUS (POTENCIA): EPTG/J/K/L/M/N/P/Q OR (CAJA) ECJG/J/K/L/M/N/P/Q	0	no max	
Notes	**Details**			

13.3.1 Cables and Linecords

Table 13-5: Lincords

FC	Description	Rated Amperage per Line (Effective)	Notes or Announce
#6653	LINECORD, PDU TO WALL, 14', 380-415V/3PH/16A, UTG0247, IEC309 16A 3P+N+G	16 amps (48 amps)	1
#6489	LINECORD, PDU TO WALL, 14' , 380-415V/3PH/32A, UTG0247, IEC309 32A 3P+N+G	32 Amps (96 amps)	1
#6667	LINECORD, PDU TO WALL, 14', 380-415V/3PH/32A, UTG0247, PDL 56P532, AUSTRALIA	32 amps (96 amps)	1
#6654	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#12 NEMA L6-30P 30A	24 amps	1
#6655	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#40 RUSSEL STOLL 3750DP	24 amps	1
#6656	LINECORD, PDU TO WALL, 14', 200-240V/32A, UTG0247, IEC309 32A P+N+G	32 amps	1
#6658	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#KP KOREAN PLUG 30A	24 amps	1
#6657	LINECORD, PDU TO WALL,14', 200-240V/**32A**,UTG0247, PT#PDL AUSTRALIA/NZ	32 amps	1
#6491	LINECORD, PDU TO WALL, 14', 200-240V/63A, UTG0247, IEC309 63A P+N+G	63 amps	1
#6492	LINECORDPDU TO WALL14' 200-240V/48A UTG0247 IEC309 60A 2P+G	48 amps	1
#ELC1	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, IEC309 30A P+N+G NORTH AMERICA	~~32~~ 24 amps	1 ~~08/24/21~~ 09/08/21
#ELC2	LINECORD, PDU TO WALL, 14', 415V/3PH/24A, UTG0247, IEC309 30A 3P+N+G NORTH AMERICA	24A (72A)	1 ~~08/24/21~~ 09/08/21
#ECJ5	LINECORD, PDU TO WALL, 14', 200-240V/3PH/24A, AMPHENOL, IEC309 30A 3P+G	24 amps (42 amps)	2 10/22/19
#ECJ6	LINECORD, PDU TO WALL, 14', 200-240V/3PH/40A, AMPHENOL, CS8365	40 amps (69 amps)	2 ~~08/24/21~~ 09/08/21

#ECJ7	LINECORD, PDU TO WALL, 14', 200-240V/3PH/48A, AMPHENOL, IEC309 60A 3P+G	48amps (83 amps)	2 10/22/19
Notes	**Details**		
1	Each #7188, #EPTJ,#EPTN, #ECJJ and #ECJN PDU requires 1x of these linecords		
2	#ECJL and #ECJQ PDUs require one of these amphenol linecords per PDU. Note: #ECJ5, #ECJ6 and #ECJ7 are only supported on #ECJL and #ECJQ PDUs.		

Table 13-6: Additional PDUs

FC	Description	Rated Amperage per Line (Effective)
#EPTL	ADDTNL PDU, US 3-PH 48A, 9XC19 OUTPUTS, SWITCHED, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	83.1 amps (27.7 amps per 3 receptacles)
#EPTQ	ADDTNL PDU, US 3-PH 48A, 12XC13 OUTPUTS, SWITCHED, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	83.1 amps (27.7 amps per 4 receptacles)
#7196	OPTNL PDU, US 3-PH 48A, 6XC19 OUTPUTS, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	83.1 amps (27.7 amps per 2 receptacles)

Table 13-7: Racked device to PDU Power Cables

FC	Description	Notes
#6665	PWR CBL DRWR TO IBM PDU, 9.2', 125-250V/10A, IEC320/C13, IEC320/C20, (39M5392)	1
#END5	PWR CBL, INDIA 2019 BIS, PWR CBL, DRWR TO IBM PDU, 2.8M, 9.2', 250V/10A, IEC320/C13, IEC320/C20, REPLACES #6665	1 4/14/20
#6095	PDU POWER CBL, IEC320 C13-C14, 10'->14'	2
Notes	**Details**	
1	FC #6665/#END5 is a power cable used to connect to the following PDUs: #EPTJ , #EPTL, #ECJJ and #ECJL. • The power cables used to connect a racked device to a PDU is ordered from the device MTM (i.e racked Tuletas will have the power supply to pdu cable ordered as part of the Tuleta order.). These power cables are offered as part of the rack as an exception basis for those customers that may need them for a special solution or application.	
2	FC 6095 is the power cable used to connect to the following PDUs: #7188, #EPTN, #EPTQ, #ECJN and #ECJQ.	

13.4 AC General Rules, restrictions, line cords:

Table 13-8: Fixed linecord information

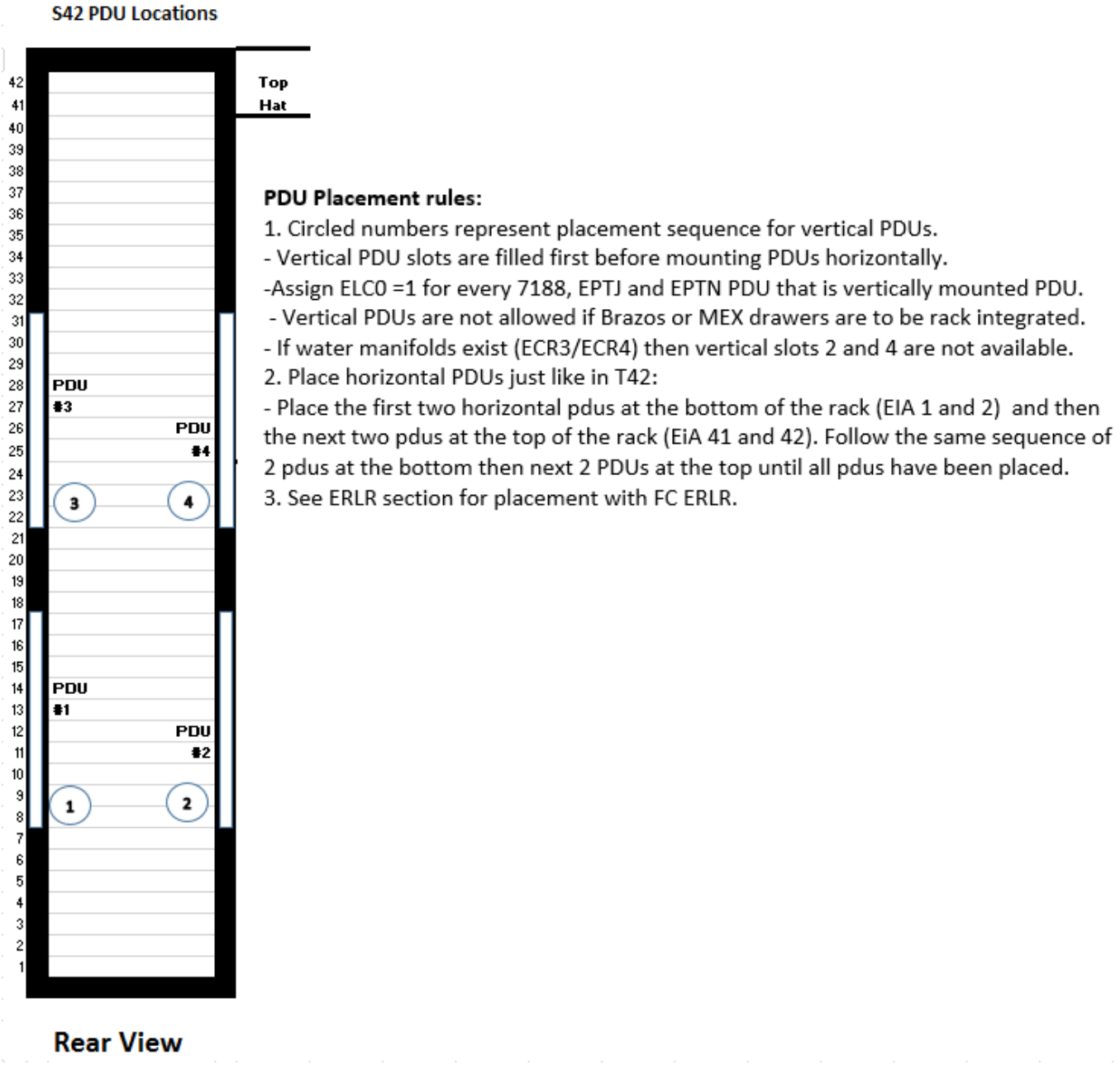
Details
#EPTL, #EPTQ have a fixed linecord so none of the linecords listed above are orderable with #EPTL or #EPTQ.

13.4.1 AC Placement Rules:

Table 13-9: AC placement rules

Details
Each PDU consumes one of four (4) possible vertical mounting bays. Each PDU beyond four (4) will be placed horizontally and consume 1U of rack space. A 1U front filler panel is installed in the corresponding front EIA location. See placement rules in S42 PDU location diagram below for conditions when vertical mounting of PDUs is not allowed.

Figure 13-2 PDU locations



13.4.2 Power Specify (Line Cord) Rules

Table 13-10: Linecord rules

Details

One rack line cord is needed for each #7188, #EPTJ, #EPTN, #ECJJ, #ECJL, #ECJN and #ECJQ PDU.
All servers or I/O drawers integrated in a rack (7965-94Y, 7014-T42/T00, #ER05, #0553, #0551, 7965-S42) with #ETPJ, #EPTL, #ECJJ and #ECJL pdus must be ordered with FC #6665/#END5, #4558/#END8 or #ELC5/#END7
Mixing of #6577#/END3 (mfg select length) and #6665/#END5/#4558/#END8/#ELC5/#END7 power cables in the same rack is not allowed for racks that do not contain Alpine-PDQ systems.
Mixing of AC and DC PDUs in the same rack is not allowed.
The current rating per linecord is shown in the feature code description

13.5 DC General Rules, Restrictions, cables:

Support for DC PDUs is TBD on the S42.

Chapter 14: Rack related

Table 14-1: Rack options

Details
Rack Overview: See chapter 4
Rack Diagrams: See Diagrams in chapter 5
Minimum Rack Features (Power; Covers; PDUs; PDPs; Line Cord; AC/DC; Language Feature, Cables: RIO, SPCN, Jtag, V/S): See Minimum config section in chapter 4
Minimum valid order for AC and DC rack: See Minimum config section in chapter 4.

14.1 Rack Features and Rules:

Table 14-2: Doors, Side Covers, Rear extension, attachment kits and manifolds

FC	Description	Max	Notes or announce
S42 Front Doors			
#ECRT	FRONT DOOR (P10 VERSION HIGH-END APPEARANCE) FOR S42 RACK	1	~~08/24/21~~ 09/08/21
#ECRF	FRONT DOOR (HIGH-END APPEARANCE) FOR S42 RACK	1	
#ECRM	FRONT DOOR (BLACK/FLAT) FOR S42 RACK	1	
#ECRS	FLASHSYSTEM FRONT DOOR RACK (STORAGE and Power)	1	6
#ECRE	FRONT DOOR (BLACK/FLAT) FOR S42 RACK OEM	1	
#ECRA	ACOUSTIC FRONT DOOR FOR S42 Rack	1	10/10/17
#ECRC	ACOUSTIC FRONT DOOR FOR S42 Rack OEM	1	
S42 Rear Doors			
#ECRG	REAR DOOR (BLACK/FLAT) FOR S42 RACK IBM/OEM	1	5
#ECRB	ACOUSTIC REAR DOOR FOR S42 Rack	1	5 10/10/17
#ECRD	ACOUSTIC REAR DOOR FOR S42 Rack OEM	1	5 10/10/17
#ECR2	HEAT EXCHANGER REAR DOOR INDICATOR FOR S42 RACK	1	5
Side Cover Kit and side/side attachment Kit for S42			
#ECRJ	OPTIONAL SIDE COVER (BLACK) FOR S42 RACK	2	4
#ECRH	OPTIONAL HIGH-END APPEARANCE SIDE COVER FOR S42 RACK	2	4
#ECR1	SIDE/SIDE ATTACH KIT (BLACK) FOR S42 RACK	1	4
#ECRP	~~OPTIONAL SIDE ACCESS PANEL~~ AIRFLOW MANAGEMENT KIT FOR S42 RACK	2	2, 4
Rack Extension and Ruggedized Kit (optional)			
#ECRK	RACK REAR EXTENSION (5 inch) FOR S42	~~1~~ 2	3
#ECRR	RUGGEDIZED KIT W/ NON-RAISED FLOOR BOLT DOWN HARDWARE FOR S42	1	1/23/18
#ECRQ	RUGGEDIZED KIT W/ RAISED FLOOR BOLT DOWN HARDWARE FOR S42 RACK	1	11/23/21

FC	Description	Max	Notes or announce
Water Manifold Feature Codes used for water cooled systems			
#ECR3	WATER COOLING TOP INPUT/OUTPUT MANIFOLD FOR S42 RACK	1	
#ECR4	WATER COOLING BOTTOM INPUT/OUTPUT MANIFOLD FOR S42 RACK	1	

Notes	Details
1	~~Must select one of ECRT, ECRM, ECRF, ECRA or ECRS for IBM configs)~~ Front doors are optional for all S42 orders (OEM and non-OEM) but will be defaulted on. See Rule 1 below in Table 14-3 for defaults a. ~~This rule has been temporarily suspended due to the poor quality of initial doors. Both the front and rear doors are now optional until further notice. See OPTDB line item 01J5M.~~
2	Per Coral requirements, ECRP qty 1 provides airflow management for only 1/2 of rack.
3	2x #ECRK are allowed to be stacked together for a 10 inch rear extension.
4	Feature is optional
5	Must select one of #ECRG, #ECRB or #ECR2 for IBM configs
6	Already available with storage configs; will be available for Power starting on 5/26/20. It will also change from “initial only” to “both”
7	#ECRR and #ECRQ are mutually exclusive.

Table 14-3: Racking defaults and rules

Rules
Doors, side covers, attachment kit rules: A. Front doors: – ~~must select 1x #ECRT, #ECRM, #ECRS, #ECRF, #ECRE, #ECRA and #ECRC.~~ – Front door FCs (#ECRT, #ECRM, #ECRS, #ECRF, #ECRE, #ECRA and #ECRC) are optional for all S42 orders (OEM and non-OEM) but a front door will continue to be defaulted. Note: OEM orders contain #777x FCs. – non-OEM Default: #ECRF if no P10 systems (Denali, Everest, Rainier) ordered with S42 rack otherwise default #ECRT. – OEM Default: #ECRE – #ECRT is <u>not</u> restricted to S42 racks with P10 systems. – #ECRT, #ECRM, #ECRS, #ECRF, #ECRE, #ECRA and #ECRC are mutually exclusive – If Fleetwood (9080-M9S) or Denali (9080-HEX) is on an S42 order that does not contain #ECRR then default #ECRA. If Fleetwood or Denali is on an S42 order that contains #ECRR then continue to default #ECRF for Fleetwood orders and #ECRT for Denali orders. B. Rear doors: – Must select 1x #ECRG, #ECRB, #ECRD, #ECR2 – #ECRG, #ECRB, #ECRD and #ECR2 are mutually exclusive. – Do not allow #ECRB or #ECRD (acoustic rear doors) when Fleetwood rack content specifies (#ER40, #ER41, #ER42, #ER43) ~~or Denali rack content specifies (#ER44, #ER45, #ER46, #ER47)~~ – The following ECR2 rules apply for S42 orders that do not contain #EDCL, #EDC0 or #EDCS. • If #ECR2 is ordered on S42 then force 1x1164-95X (Dagger MTM) with the rack order. 1164-95X also requires 1x#ECR2. • If #ECR2 is ordered with #ECR1 then must have at least one ~~access panel~~ air management kit (#ECRP) • If #ECR2 is ordered and #ECR1 = 0 then must have either 2x #ECRP, 2x#ECRJ, or 2x#ECRH. • If #ECR2 and #ECR1 are both ordered then 2x #ECRP, (1x#ECRP and 1x #ECRJ) or (1x#ECRP and 1x#ECRH) are required. C. Side Covers: – 0, 1, or 2 of #ECRJ or #ECRH are allowed. – Mixing of #ECRJ and #ECRH is allowed. – Default 2x #ECRJ – If #ECR1 is ordered then sum of #ECRJ and #ECRH must be 0 or 1. D. Side attachment kit: – If FC ECR1 is ordered, #ECRJ and #ECRH are limited to a max of 1. This is because the #ECR1 cannot be used on the same side of the rack as a side cover.

Water-Cooling Manifold (#ECR3 and #ECR4) related Rules:

A. #ECR3 and #ECR4 will be allowed in Initial Orders Only. There is no MES support for these FCs.
B. #ECR3 and #ECR4 are mutually exclusive.
C. #ECR3 and #ECR4 are to be integrated in the 7965-S42 in manufacturing.
D. If #ECR3 is ordered, then #ER2T is required.
E. If #ECR4 is ordered, then ~~either #ER1B or~~ #ER2B is required. ~~Customer gets too choose either #ER1B or #ER2B, default is #ER2B.~~
F. Customer is allowed to have water cooled and air cooled systems in the same rack.
G. The 7965-S42 Constellation rack will support up to 20 2U water cooled systems. When either #ECR3 or #ECR4 is selected, PDUs 2 and 4 will be blocked (Manifold will be always on the right side as seen from the rear).

14.2 S42 Rack Content Specifies and Placement Sequence

Table 14-4: Follow bottom up placement sequence unless specified otherwise in rack rules section.

FC	Rack Content Specify For	EIA Space	Max	Rules from Table 14-5 or announce
Reserve Space in Bottom of Rack Specifies				
#ER2B	RACK CONTENT SPECIFY: RESERVE 2U RACK SPACE AT BOTTOM OF RACK	2	1	
#ER1B	RACK CONTENT SPECIFY: RESERVE 1U RACK SPACE AT BOTTOM OF RACK	1	1	
Horizontal PDU Placement specify				
#ER14	RACK CONTENT SPECIFY: 1U HORIZONTAL PDU - 1 EIA	1	10	
#ER15	RACK CONTENT SPECIFY: RESERVE 1U SPACE FOR HORIZONTAL PDU - 1 EIA	1	12	
UPS (place bottom up)				
#0393	RACK CONTENT SPECIFY: 9910/E35/E36 - 3EIA (UPS)	3	14	10/10/17
#0394	RACK CONTENT SPECIFY: 9910/FC 6651 - 3EIA (9910-E35/E36 BATTERY MODULE)	3	7	10/10/17
#0401	RACK CONTENT SPECIFY: 9910/E66/E67 - 4EIA (UPS)	4	10	10/10/17
#0402	RACK CONTENT SPECIFY: 9910/FC 6652 - 3EIA (9910-E66/E67 BATTERY MODULE)	3	5	10/10/17
#0198	RACK CONTENT SPECIFY: 9910-E37	2	2	4/24/18
DASD Drawers				
#0303	RACK CONTENT SPECIFY: FC 5802/5877 - 4EIA, (TRES19)	4	10	10/10/17
#0323	RACK CONTENT SPECIFY: FC 5887 - 2EIA (6Gb/s SAS DASD DRWR, HOMERUN)	2	21	10/10/17
#ERCP	RACK CONTENT SPECIFY CODE: FC ESR0 - 2EIA (NVME SSD DRAWER, SPLITTER)	2	21	~~11/08/22~~ ~~10/11/22~~ ~~4/25/23~~ 4/11/23
#ERC0	RACK CONTENT SPECIFY CODE: FC ESLL/ELLL - 2EIA (12Gb/s SAS DASD DRAWER, SLIDER12)	2	21	10/10/17
#ERC1	RACK CONTENT SPECIFY CODE: FC ESLS/ELLS - 2EIA (12Gb/s SAS DASD DRAWER, SLIDER24)	2	21	10/10/17
#ERCU	RACK CONTENT SPECIFY: FC ENZ0- 4EIA (I/O DRAWER, NIMITZ)	4	9	See rule 10

FC	Rack Content Specify For	EIA Space	Max	Rules from Table 14-5 or announce
#ER0M	RACK CONTENT SPECIFY MEX I/O DRAWER #ER0M - 4EIA	4	9	See rule 10 10/10/17
#ER19	RACK CONTENT SPECIFY - RESERVE ADJACENT SPACE FOR MEX OR NIMITZ I/O DRAWER - 4EIA	4	4	See rule 10 10/10/17
~~#ERAD~~	~~RACK CONTENT SPECIFY ACCELERATOR EXPANSION DRAWER #EAED 4EIA~~	~~4~~	~~2~~	~~See rule 16 10/13/20~~
~~#ERAV~~	~~RACK CONTENT SPECIFY VIRTUAL ACCELERATOR DRAWER INDICATOR #EAEV 4EIA~~	~~4~~	~~1~~	~~See rule 16 10/13/20~~
Servers and I/O Drawers				
#ER47	RACK CONTENT SPECIFY: 9080-HEX/9782-80H - 22EIA (DENALI - 4 ENCLOSURE WITH MACK)	22	1	See rules 2 and 19 09/08/21
#ER46	RACK CONTENT SPECIFY: 9080-HEX/9782-80H - 17EIA (DENALI - 3 ENCLOSURE WITH MACK)	17	2	See rules 2 and 19 09/08/21
#ER45	RACK CONTENT SPECIFY: 9080-HEX/9782-80H - 12EIA (DENALI - 2 ENCLOSURE WITH MACK)	12	3	See rules 2 and 19 7/13/21 8/24/21 09/08/21
#ER44	RACK CONTENT SPECIFY: 9080-HEX/9782-80H - 7EIA (DENALI - 1 ENCLOSURE WITH MACK)	7	6	Seerules 2 and 19 09/08/21
#ER43	RACK CONTENT SPECIFY: 9080-M9S/9222-80H - 22EIA (Fleetwood - 4 ENCLOSURE WITH MAXDALE)	22	1	See rule 2 8/07/18
#ER42	RACK CONTENT SPECIFY: 9080-M9S/9222-80H - 17EIA (Fleetwood - 3 ENCLOSURE WITH MAXDALE)	17	2	See rule 2 8/07/18
#ER41	RACK CONTENT SPECIFY: 9080-M9S/9222-80H - 12EIA (Fleetwood - 2 ENCLOSURE WITH MAXDALE)	12	3	See rule 2 8/07/18
#ER40	RACK CONTENT SPECIFY: 9080-M9S/9222-80H - 7EIA (Fleetwood - 1 ENCLOSURE WITH MAXDALE)	7	6	See rule 2 8/07/18
#ER13	RACK CONTENT SPECIFY: 9119-MxE - 22EIA (BRAZOS - 4 ENCLOSURE WITH MAXDALE)	22	1	See rule 2 10/10/17
#ER12	RACK CONTENT SPECIFY: 9119-MxE - 17EIA (BRAZOS - 3 ENCLOSURE WITH MAXDALE)	17	2	See rule 2 10/10/17
#ER11	RACK CONTENT SPECIFY: 9119-MxE - 12EIA (BRAZOS - 2 ENCLOSURE WITH MAXDALE)	12	3	See rule 2 10/10/17
#ER10	RACK CONTENT SPECIFY: 9119-MxE - 7EIA (BRAZOS - 1 ENCLOSURE WITH MAXDALE)	7	6	See rule 2 10/10/17
#ER0T	RACK CONTENT SPECIFY: 8246-41A/42A - 4EIA (TULETA 4U)	4	10	See rules 8, 9 and 10 10/10/17
#ER0Z	RACK CONTENT SPECIFY: 8247-42L - 4EIA (TULETA-L 4U)	4	10	See rules 8, 9 and 10 10/10/17
#ER18	RACK CONTENT SPECIFY: 8247-21L - 2EIA (TULETA-L 2U)	2	21	See rules 8, 9 and 10 10/10/17
#ER0V	RACK CONTENT SPECIFY: 8247-22L - 2EIA (TULETA-L 2U)	2	21	See rules 8, 9 and 10 10/10/17
#ER30	RACK CONTENT SPECIFY: 8284-21A - 2EIA (LOW COST TULETA 2U)	2	21	See rules 8, 9 and 10 10/10/17
#ER0U	RACK CONTENT SPECIFY: 8284-22A - 2EIA (TULETA 2U)	2	21	See rules 8, 9 and 10 10/10/17

FC	Rack Content Specify For	EIA Space	Max	Rules from Table 14-5 or announce
#ER34	RACK CONTENT SPECIFY: 9009-41G - 4EIA (ZZ-G 4U)	4	10	See rules 8, 9 and 10
#ER35	RACK CONTENT SPECIFY: 9009-42G/9223-42S - 4EIA (ZZ-G/S 4U)	4	10	See rules 8, 9 and 10 10/06/20 for 42S
#ER33	RACK CONTENT SPECIFY: 9009-22G/9223-22S- 2EIA (ZZ-G/S 2U)	2	21	See rules 8, 9 and 10 10/06/20 for 22S
#ER2X	RACK CONTENT SPECIFY: 9009-41A - 4EIA (ZZ 4U)	4	10	See rules 8, 9 and 10 1/23/18
#ER2Y	RACK CONTENT SPECIFY: 9009-42A/9223-42H - 4EIA (ZZ 4U	4	10	See rules 8, 9 and 10 1/23/18
#ER2V	RACK CONTENT SPECIFY: 9009-22A/9223-22H - 2EIA (ZZ 2U)	2	21	See rules 8, 9 and 10 1/23/18
#ER2W	RACK CONTENT SPECIFY: 9008-22L - 2EIA (ZZ 2U	2	21	See rules 8, 9 and 10 1/23/18
#ER3D	RACK CONTENT SPECIFY: 9105-41B- 4EIA (Rainier 4U)	4	10	See rules 8, 9,10 and 11 ~~5/03/22~~ 7/12/22
~~#ER3C~~	~~RACK CONTENT SPECIFY: 9105-42B- 4EIA (Rainier 4U)~~	~~4~~	~~10~~	~~See rules 8, 9,10 and 11~~ ~~5/03/22~~
#ER3B	RACK CONTENT SPECIFY: 9105-42A/9786-42H- 4EIA (Rainier 4U)	4	10	See rules 8, 9,10 and 11 ~~5/03/22~~ 7/12/22
ER39#	RACK CONTENT SPECIFY: 9105-22A/9786-22H- 2EIA (Rainier 2U)	2	21	See rules 8, 9,10 and 11 ~~5/03/22~~ 7/12/22
#ER3A	RACK CONTENT SPECIFY: 9105-22B- 2EIA (Rainier 2U)	2	21	See rules 8, 9,10 and 11 ~~5/03/22~~ 7/12/22
#ERCZ	RACK CONTENT SPECIFY:9040-MR9/9225-50H - 4EIA (Zeppelin)	4	~~4~~ 8	See rule 14 8/07/18
#ER3E	RACK CONTENT SPECIFY: 9043-MRX - 4EIA Note: The 9781-50H is currently out of plan.	4	8	See rule 14, 19 ~~5/10/22~~ 7/12/22
#ER17	RACK CONTENT SPECIFY: 8408-E8E - 4EIA (ALPINE)	4	8	See rule 3 10/10/17
#ER1L	RACK CONTENT SPECIFY: 8408-44E - 4EIA (ALPINE-PDQ)	4	8	See rule 3 10/10/17
#ERC8	RACK CONTENT SPECIFY: 8335-GTX - 2 EIA (WITHERSPOON - WATER)	2	18	See rule 15 and 16 08/07/18
#ERC7	RACK CONTENT SPECIFY: 8335-~~GTC~~ GTW- 2 EIA (CORAL WITHERSPOON - ~~AIR~~ Water)	2	18	See rule 15 and 16 08/07/18
#ERC6	RACK CONTENT SPECIFY: 8335-GTH- 2 EIA (WITHERSPOON DD2.2-AIR)	2	18	See rule ~~3,~~ 16 08/07/18
#ERC5	RACK CONTENT SPECIFY: 8335-GTG- 2 EIA (WITHERSPOON DD2.1-AIR)	2	18	See rule ~~3,~~ 16 08/07/18
HMC, Displays and Media Drawers Place between EIA 20 and 25				

FC	Rack Content Specify For	EIA Space	Max	Rules from Table 14-5 or announce
#ER0E	RACK CONTENT SPECIFY: 7316/TF4 - 1EIA	1	42	
#ER0K	RACK CONTENT SPECIFY: 7316/TF5 - 1EIA	1	~~42~~ 2	~~1/14/20~~ 4/14/20
#ER0L	RACK CONTENT SPECIFY: #ETF6 - 1EIA	1	21	see Rule 5 ~~10/11/22~~ 04/25/23
#ERCN	RACK CONTENT SPECIFY: 7063-CR2- 1EIA (HMC-MOWGLI)	1	42	See rule 18 4/13/21
#ERC2	RACK CONTENT SPECIFY: 7063-CR1- 1EIA (HMC-STRATTON)	1	42	10/10/17
#0324	RACK CONTENT SPECIFY: 7042-CR6/CR7CR8/CR9 - 1EIA (RK MNT DESTINY-2/DIONGSHAN/DIONGSHAN-3))	1	42	10/10/17
#0274	RACK CONTENT SPECIFY: 7214/1U2, 7216/1U2 or 7226-1U3 - 1EIA (LITTLEHORN/OLIVER SAS MEDIA DRWR)	1	42	10/12/17
SWITCHES				
#ER0A	RACK CONTENT SPECIFY: 1455/7120-64C 1EIA	1	4	10/10/17
#ER1C	RACK CONTENT SPECIFY: 7120-64F 1EIA	1	42	10/10/17
#ER09	RACK CONTENT SPECIFY: 1455/7120-48E 1EIA	1	6	10/10/17
#ER0W	RACK CONTENT SPECIFY: 1455-24L, 7120-24L/48L EXTERNAL REDUNDANT POWER SUPPLY FC #EB2P 1 EIA	1	42	10/10/17
#ER0G	RACK CONTENT SPECIFY: 7120-48L 1EIA	1	42	10/10/17
#ER1V	RACK CONTENT SPECIFY: 8831-S52 1EIA	1	4	6/13/17
#ER2R	RACK CONTENT SPECIFY: 8831-S48 1EIA	1	4	6/13/17
#ER1D	RACK CONTENT SPECIFY: 8831-NF2 1EIA	1	42	10/10/17
#ER1H	RACK CONTENT SPECIFY: 8831-F36 1EIA	1	4	10/10/17
#ER26	RACK CONTENT SPECIFY: 8867-FM1/FM2 1EIA	1	4	6/13/17
#ER31	RACK CONTENT SPECIFY: 8828-GU6 1EIA	1	4	6/13/17
#ER36	RACK CONTENT SPECIFY: 8828-E36 1EIA	1	4	10/10/17
#ER37	RACK CONTENT SPECIFY: 8828-G36 1EIA	1	4	6/13/17
#ER38	RACK CONTENT SPECIFY: 8828-ER6 1EIA	1	4	6/13/17
#ER08	RACK CONTENT SPECIFY: 1455/7120-24E 1EIA	1	6	10/10/17
#ER06	RACK CONTENT SPECIFY: STORAGE SWITCH DRAWER (2498-B24) 1EIA	1	6	10/10/17
Reserve Space in Top of Rack Specifies				
#ER2T	RACK CONTENT SPECIFY: RESERVE 2U RACK SPACE AT TOP OF RACK	2	1	
#ER1T	RACK CONTENT SPECIFY: RESERVE 1U RACK SPACE AT TOP OF RACK	1	1	

Table 14-5: Rack content specify rules

Rule	Details

1	Follow the same drawer placement rules currently used on the T42 rack.
2	• Refer to Brazos BI for Brazos racking rules used in T42 racks. The same rules will apply in S42.The only exception is that on S42, Brazos systems are not supported for factory integration. Brazos systems (9119-MME/MHE, 9080-MME/MHE) are field merge only on the S42. • Refer to Fleetwood BI for Fleetwood racking rules used in S42 racks. • Refer to Denali BI for Denali racking rules used in S42 racks.
3	Alpine/Alpine PDQ/Zeppelin/Everest servers can start at EIA 16 + 0.5 height of device in EIA units. The lower locations of the rack are then filled before going up. Similar to Brazos, Alpine systems (8408-E8E/44E) are field merge only on the S42.
4	Ballasts for additional stability will be available on the S42. As such, it is expected that S42 racks will not require the depopulate rules at the 32 EIA location as was done with T42.. The details for the assignment of the ballasts are still pending.
5	7316-TF3/TF4/TF5 and #ETF6 is placed under HMC and media drawers per request from product engineering (D. Nguyen) Note: #ETF6 is the follow-on to 7316-TF5 and is announcing as a FC of the 7063-CR2
6	CSRP process is available for customer specified switch placement for the switches.
7	Any single switch installation for 7120-64C, 7120-64F, 7120-48E. 7120-48L, 7120-24E requires blank 1U space above or below for servicing.
8	The default will be #ER2B. Default to 1x #ER2B whenever any number of the following rack content specify codes are ordered with 7014-T00/T42 and 7965-94Y/S42 racks: #ER0T, #ER0U, #ER30, #ER0Z, #ER18, #ER0V, #ER2X/#ER34, #ER2Y/#ER35, #ER2V/#ER33, #ER2W, #ER3D, #ER3C, #ER3B, #ER39 or #ER3A.
9	If the #ER2B default is deselected and not replaced with #ER2T in the rack order then econfig will post the following click through message: "For cable management purposes, 1x ER2B or 1x ER2T are strongly recommended for any number of the following rack integrated servers: 8286-41A/42A, 8284-21A/22A, 8247-42L/21L/22L, ~~8375~~ 9009-22A/22L/41A/42A/22G/41G/42G, 9223-22H/42H/22S/42S, 9105-22A/22B/42A/41B/~~42B~~ or 9786-22H/42H.”
10	Tuleta, ZZ/G and Rainer are always placed below MEX/NIMITZ. If CSRP is used econfig will fail orders whenever Tuleta, ZZ/G or Rainer servers are placed above MEX/NIMITZ drawers. If Tuleta, ZZ/G or Rainer is required to be placed above MEX/NIMITZ, there must be 2U gap between Tuleta/ZZ/ZZG/Rainer and MEX/NIMITZ. • ZZ/G is the Power 9 follow-on to Tuleta. The same racking rules used for Tuleta will apply to ZZ/G. • **Reference only:** ZZ/G = ZZ and ZZG models
11	Rainer 2U Models (9105-22A/9786-22H, 9105-22B) installed in the S42 rack require rack extension FC #ECRK
12	If MEX/NIMITZ is in the rack, PDUs need to be placed horizontally.

13	For #ERC0/#ERC1: – For initial orders with a rack MTM: • On factory integrated orders allow Sliders (#ERC0/#ERC1) and Homeruns (#0323) in the same order only if Customer Specified Rack Placement is used. (#0469) and CSP. The rack placement will be per CSRP. • Mixing of Sliders and Homeruns in the same MTM rack is allowed as long as they belong to separate servers. For example, one tuleta ordered with Homeruns can share the same MTM rack with another Tuleta ordered with Sliders. In those cases, the placement sequence would be as follows: Tuleta/Mex/Slider24/Slider12/Homerun. • For non-CSRP rack orders (#0469) and non-CSP orders, post the following Fatal error whenever both Slider and Homerun are ordered together in an initial system order without #0469 in the rack and #8453 in the system: "Configs with both Sliders and Homeruns in the same initial order require FC 0469 in the rack and FC 8453 order in the system." • Sum of Homeruns/Slider12/Slider24 must be less than or equal to 21 on 7014-B42/T42/94Y. • Sum of Homeruns/Slider12/Slider24 must be less than or equal to 18 on 7014-T00. • Manufacturing configurator will place Sliders and Homeruns in the best way it can for MES / Upgrades, if there are remainders, those will be shipped loose. • Place Slider 12s above Slider 24s, and if both Homeruns and Sliders are in the order, place first Sliders 24/Homeruns above Slider 12s. • Place Sliders/Homeruns above Tres drawers. – For initial orders without Rack MTM (Standalone): • Mixing of Slider and Homerun is only allowed with CSP. • Post the following Fatal error whenever both Slider and homerun are ordered together in an initial system order without #8453: "Configs with both Sliders and Homeruns in the same initial order require FC 8453." – Mixing Slider and Homeruns is not allowed in MES with FCed racks. – Mixing Slider and Homeruns is not allowed in MES without FCed racks. – If both Slider and Homerun are ordered together in an MES system order, post the following Fatal error: "Configs with both Sliders and Homeruns in the same MES order are not allowed"
14	For rack orders with Zeppelin (9040-MR9) or Everest (~~9040~~ 9043-MRX) use #ER2B (RESERVE 2U RACK SPACE AT BOTTOM OF RACK). – Default (non-CSRP) Zeppelin/Everest configurations will be placed no lower than EIA 3, then populate additional MEX/NIMITZ drawers from bottom up over the Zeppelin/Everest • PDUs will continue to be distributed evenly between the top and bottom (below Zeppelin/Everest) of the rack (starting at EIA 3) • If CSRP (#0469) is ordered allow Zeppelin/Everest servers to be placed in EIA 1. In CSRP orders PDUs can also be placed in EIA 1. – Default (non-CSRP) Zeppelin/Everest will always be placed below MEX/NIMITZ. – If CSRP (#0469) is ordered and Zeppelin/Everest is placed above MEX/NIMITZ then a 3U gap is required between Zeppeli/Everest and MEX/NIMITZ.
15	If #ERC7 or #ERC8 (water-cooled witherspoon rack content specify) is on the S42 order then require either #ECR3 (water coolng manifold with top input) or #ECR4 (water cooling manifold with bottom input)
16	A. Factory integrated Witherspoons require 1U of space between them and other (non-witherspoon) devices placed above them. This means that all the witherspoons will be stacked together and the last one will consume 3EIA. This drives the following rule and placement: B. The amount of EIA space consumed by factory integrated Witherspoons (8335-GTG/GTH/GTX/GTW) will be 2x #of Witherspoons ordered plus 1. C. All factory integrated Witherspoons will be stacked together above the last system placed in the rack and the last Witherspoon on the stack will consume 3EIA.

17	~~(a) ERAD and ERAV require at least one of the Fleetwood rack content specifies: ER40, ER41, ER42 or ER43 to be ordered in the same rack.~~ ~~(b) ERAD and ERAV must be placed as in the same rack as the Fleetwood Nodes (rack content specifies: ER40, ER41, ER42 or ER43).~~ ~~(c) EAED/EAEV drawers (ERAD and ERAV) must be placed directly above the Fleetwood node stack they were ordered against. ERAD would be placed first and then ERAV. The only exception is if an HMC and/or TF4/TF5 is ordered in a 3 node config. This will require that ERAD be placed be placed immediately above the HMC and TF4/TF5 stack because of the 20 to 25 EIA restriction for the TF4/TF5. Note: TF4/TF5s are not allowed in the same rack of a 4 node config because of the 20 to 25 EIA limitation.~~ ~~(d) A rack extender is required whenever EAED or EAEV is an S42 rack. Therefore, if ERAD or ERAV is ordered with 7965-S42 then ECRK is required.~~
18	Unlike 7063-CR1, 7063-CR2 is supported for factory-integration.
19	If Everest (9043-MRX) or Denali (9080-HEX) with #ECLS (3m copper CXP4 Cable) is ordered with an 7965-S42 rack then the S42 rack requires #ECRK (5” rear extension)

14.3 Rack Related Miscellaneous FCs

Table 14-6: Rack Related Misc Features

FC	Description	Notes
Shipping and Handling Codes		
#ESC0	Shipping and Handling (No Charge)	1, 2
#ESC1	Shipping and Handling	1, 2
#AKCH	Shipping and Handling (Standard)	6
#AKNC	Shipping and Handling (Premium)	6
Rack Integration Codes		
#4651	Indicator for Rack #01	5
#4652	Indicator for Rack #02	5
#4653	Indicator for Rack #03	5
#4654	Indicator for Rack #04	5
#4655	Indicator for Rack #05	5
#4656	Indicator for Rack #06	5
#4657	Indicator for Rack #07	5
#4658	Indicator for Rack #08	5
#4659	Indicator for Rack #09	5
#4660	Indicator for Rack #10	5
#4661	Indicator for Rack #11	5
#4662	Indicator for Rack #12	5
#4663	Indicator for Rack #13	5
#4664	Indicator for Rack #14	5
#4665	Indicator for Rack #15	5
#4666	Indicator for Rack #16	5
Rack Related Miscellaneous Feature codes		

FC	Description	Notes
#0469	CUSTOMER SPECIFIED PLACEMENT	4 10/10/17
#ER00	ADVANCED RACK INTEGRATION	10/10/17
#9002	FIELD INTEGRATION INDICATOR, SHIP EMPTY RACK	
#7118	TEMPERATURE/HUMIDITY PROBE FOR iPDUs	
#9459	PDU REDUNDANCY CABLING/TESTING, SPECIFY	See Table 14-7 and Table 14-8
#ERLR	LEFT/RIGHT PDU REDUNDANCY SPECIFY	See Table 14-8 and Table 14-9
#ERF1	RFID TAG FOR SERVERS/COMPUTE NODES/CHASSIS/RACK	

Note	Details
1	Shipping and Handling feature code charges will be defaulted in eConfig for all Power MTMs will default #ECS1. #ECS0 and #ECS1 are no longer valid as of 4/11/23 and replaced with #AKCH and #AKNC. See Rule 6.
2	The following eConfig warning message is to be displayed if the defaulted charged S&H feature code (#ECS1) is removed. "*Warning! This feature code can not be removed unless required per an existing contractual agreement or for competitive bid reasons. By removing this feature code you are agreeing that such a contract exists or that your IOT representative is in agreement."*
3	For initial orders where the country code is 672 (China mainland) and #7770 (OEM (GENERIC) INDICATOR) in the order, #ECSJ is selectable, but not defaulted. #ECS0 (MADE IN CHINA INDICATOR) is not allowed with #ECSJ.
4	Customized Rack Placement Feature code (#0469) allows 7014-xxx and 7965-xxx rack customers and account teams to identify a preferred location for the system modules and attached enclosures within the rack when ordering both a rack and included P5 and later systems on a single initial order. If #0469 is not on the initial order, component placement within the rack will be determined as documented in the build instructions
5	Rack integration codes (#4651-#4666) are used by manufacturing to tie servers and the host racks that will populated with factory integrated servers. As such, server MTMs that support factory integration are announced with the same #4651-#4666 rack integration codes.
6	• ~~Announce April 11, 2023. All initial orders for S42 will contain these features after that date, old #ESC0/#ESC1 features are no longer valid. See Chapter 7.1 Min Config for Rule #7.~~ Starting on 5/9/23, all initial orders for S42 in US/CAN Geos will contain either #AKCH or #AKNC. All other GEOs will contain either #ESC0 or #ESC1. See Chapter 7.1 Min Config for Rule #7.

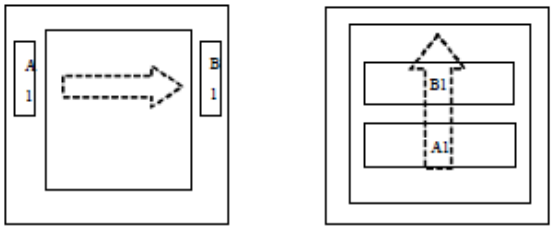
14.3.1 Power Redundancy (FC 9459) Rules

Table 14-7: Power Redundancy rules

Rule	Details
1	When this FC is on the MTM rack order eConfig will (1) force enough PDUs to allow all drawers to be cabled for PDU redundancy and (2) force 2 power supplies if possible to every server/drawer to be rack integrated. The only exception will be HMCs, 2 power supplies do not have to be forced on HMCs with existence of 9459.
2	This Feature Code will also serve as a signal for a test operation that will allow Manufacturing to ensure the power cords have been connected correctly for Rack Level Redundancy.
3	The existence of a UPS will not affect either one of the above two rules. The existence of the UPS does not affect point-to-point cabling because it is assumed that the UPS is not used as a PDU.

14.3.2 Rules for orders with #ERLR without #ECR3/#ECR4

Table 14-8: Rules around #ERLR, no #ECR3 or #ECR4

Rules
#ERLR is the default.
#9459 and #ERLR are mutually exclusive.
IBM PDUs are required with #ERLR.
If #ERLR is on the order, PDUs must be ordered in pairs and evenly distributed on both sides of the rack or placed horizontally in pairs.; ie: A1 is installed on the left side, and B1 is installed on the right side of the rack. Or, A1 will be placed horizontally, and paired with B1 also placed horizontally. *Figure 14-1 Power Redundancy* 
Vertically placed PDUs will not be paired with horizontally placed PDUs.
If PDUs must be placed horizontally, they will be placed in pairs starting at the bottom of the rack; ie: the PDU placed in the lowest horizontal location will be paired with the next closest PDU placed above it. Additional PDU pairs will be placed horizontally in rack following this same sequence.
If FC ERLR is on the order, systems with dual power supplies will be plugged in a right/left or 'paired' manner. For example, – A dual power supply System will have one power supply plugged to left PDU and the other power supply plugged to right PDU. – A dual power supply System utilizing horizontal PDUs will have one power supply plugged into one PDU from the pair and the other power supply plugged into the second PDU from the pair.
E-config will still monitor consumed amperage and add pairs of PDUs as required.
NewC will ensure servers/devices are plugged into paired PDUs and total plugged devices will not exceed PDU amperage.
#9459 will force enough PDUs to allow all drawers to be cabled for PDU redundancy along with ensuring each Server and I/O drawer contains 2 power supplies. #9459 does not enforce right/left PDU cabling in the Factory.
#ERLR will ensure left/right PDU plugging for each server/device on the order. Customers will not be allowed to remove IBM PDUs from the order.
#ERLR will not enforce dual power supply for each server/device on order.
Initial orders of rack mounted servers and drawers that are to be factory integrated must contain a rack specify (#4651-#4666) and contain #6577/#END3.

14.3.3 Rules for orders with #ERLR with #ECR3/#ECR4.

Table 14-9: Rules around #ERLR, with #ECR3 or #ECR4

Rules

If #ERLR and #ECR3 or #ECR4 are on the order the same rules apply as #ERLR without #ECR3/#ECR4 except that:
- Vertical PDUs on the right side are not allowed since vertical slots 2 and 4 are blocked by the manifold.
- ~~Each vertical PDU mounted in vertical slots 1and 3 must have a matching PDU mounted horizontally in the S42 rack. (The vertical PDU in vertical slot 1 would ha ve a horizontally mounted PDU partner in EIA 1 (or lowest allowable horizontally mounted PDU), vertical slot 2 would have a partner in EIA 2~~
- Vertical PDUs mounted in vertical slots 1 and 3 will be paired with each other. Horizontally mounted PDUs will only be paired with other horizontally mounted PDUs.
- ~~A dual power supply system will have one power supply plugged to the left PDU and the other power supply plugged to it's matching horizontal PDU.~~

14.4 PDU Cabling

Table 14-10: PDU Cabling

Rules
Per PCR 645, the Requirements team will imbed the Power Requirements Table provided by the Power Team (currently Joe Prisco), using Joe's power point file showing examples of how various configurations should be cabled into the Rack Build Instructions. Using this, NEWC will generate drawer power supply to PDU connector cabling instructions for the Mfg build operators. The following are the power requirements table and power point presentation referenced in the PCR. These files will be maintained by Joe Prisco: • Server Power Requirements Table (also see link in Miscellaneous Reports Section of the System Build Instruction link called “Server Power Requirements” • “PDU Loading Rules”

14.5 PDU Amperage Loading Rules

Table 14-11: PDU Amperage Rules

Rules
PDUs with detachable line cords that support a 3-phase input need to be treated as three PDUs in one package. Each PDU has a 5-pin input (line A, line B, line C, neutral, and ground) and distributes to the output receptacles in a wye configuration (phase 1 = line A to neutral, phase 2 = line B to neutral, and phase 3 = line C to neutral).
The total number of receptacles on the PDU is divided by 3 and assigned to a phase number.
PDU #7188, #EPTN (12 x IEC 320-C13s), #EPTQ (12x IEC 320-C13s)- 4 outlets per phase 1, phase 2, and phase 3
PDU #EPTJ, #EPTL (9x IEC 320-C19s), - 3 outlets per phase 1, phase 2, and phase 3
If a pair of Everest (9043-MRX) power supplies are connected to a single pdu that receives power from the following linecords: #6654, #6655, #6658 or #ELC1, allow 26.4amps per pdu. This an exception to these 24amp rated pdu linecords that will apply only to Everest per Joe Prisco.

14.6 Linecords by Country

Table 14-12: Line Cord part numbers by Country

Country name	country / region code	PDU MFI #	Line cord MFI #
Abu Dhabi	680	40Y0718 (International)	52P3710
Afghanistan	614	40Y0718 (International)	52P3710

Country name	country / region code	PDU MFI #	Line cord MFI #
Albania	603	40Y0718 (International)	52P3710
Algeria	229	40Y0718 (International)	52P3710
Angola	610	40Y0718 (International)	52P3710
Antigua and Barbuda	612	40Y0734 (North America)	NA - Attached to PDU
Argentina	613	40Y0718 (International)	52P3710
Armenia	607	40Y0718 (International)	52P3710
Aruba	659	40Y0734 (North America)	NA - Attached to PDU
Australia	616	40Y0718 (International)	TBD
Austria	618	Not supported	Not supported
Azerbaijan	358	40Y0718 (International)	52P3710
Bahamas	619	40Y0734 (North America)	NA - Attached to PDU
Bahrain	620	40Y0718 (International)	52P3710
Bangladesh	615	40Y0718 (International)	52P3710
Barbados	621	40Y0734 (North America)	NA - Attached to PDU
Belarus	626	40Y0718 (International)	52P3710
Belgium	624	40Y0718 (International)	52P3710
Belize	639	40Y0734 (North America)	NA - Attached to PDU
Benin	840	40Y0718 (International)	52P3710
Bermuda	627	40Y0734 (North America)	NA - Attached to PDU
Bolivia	629	40Y0734 (North America)	NA - Attached to PDU
Bosnia and Herzegovina	699	40Y0718 (International)	52P3710
Bostwana	636	40Y0718 (International)	52P3710
Brazil	631	40Y0718 (International)	52P3710
Brunei Darussalam	643	40Y0718 (International)	52P3710
Bulgaria	644	40Y0718 (International)	52P3710
Burkina Faso	841	40Y0718 (International)	52P3710
Burundi	645	40Y0718 (International)	52P3710
Cambodia or Laos	238		
Cambodia or Laos - 2nd Entry	720		
Cambodia or Laos - 3rd Entry	714		
Cameroon	692	40Y0718 (International)	52P3710
Cameroon - 2nd Entry	376	40Y0718 (International)	52P3710
Canada	649	40Y0734 (North America)	NA - Attached to PDU
Cape Verde	669	40Y0718 (International)	52P3710
Cayman Islands	647	40Y0734 (North America)	NA - Attached to PDU
Central African Republic	810	40Y0718 (International)	52P3710

Country name	country / region code	PDU MFI #	Line cord MFI #
Chad	844	40Y0718 (International)	52P3710
Chad - 2nd Entry	881	40Y0718 (International)	52P3710
Chile	655	40Y0718 (International)	52P3710
China / Hong Kong	672	40Y0718 (International)	52P3710
Colombia	661	40Y0734 (North America)	NA - Attached to PDU
Congo, The Democratic Republic of the	662	40Y0718 (International)	52P3710
Congo, The Democratic Republic of the - 2nd Entry	667	40Y0718 (International)	52P3710
Costa Rica	663	40Y0734 (North America)	NA - Attached to PDU
Croatia	704	40Y0718 (International)	52P3710
Cyprus	666	40Y0718 (International)	52P3710
Czech Republic	668	Not supported	Not supported
Denmark	678	Not supported	Not supported
Djibouiti	670	40Y0718 (International)	52P3710
Dominican Republic	681	40Y0734 (North America)	NA - Attached to PDU
Eastern Europe Direct	882		
Ecuador	683	40Y0734 (North America)	NA - Attached to PDU
Egypt	865	40Y0718 (International)	52P3710
El Salvador	829	40Y0734 (North America)	NA - Attached to PDU
Equatorial Guinea	383	40Y0718 (International)	52P3710
Equatorial Guinea Guinea Bissau	879		
Eritrea	745	40Y0718 (International)	52P3710
Estonia	602	Not supported	Not supported
Ethiopia	698	40Y0718 (International)	52P3710
Finland	702	Not supported	Not supported
France	706	40Y0718 (International)	52P3710
French Guiana	560	40Y0718 (International)	52P3710
French Polynesia	809	40Y0718 (International)	52P3710
Gabon	656	40Y0718 (International)	52P3710
Gambia	753	40Y0718 (International)	52P3710
Georgia	651	40Y0718 (International)	52P3710
Germany	724	40Y0718 (International)	52P3710
Ghana	725	40Y0718 (International)	52P3710
Greece	726	40Y0718 (International)	52P3710
Guam	873	40Y0734 (North America)	NA - Attached to PDU
Guatemala	731	40Y0734 (North America)	NA - Attached to PDU

Country name	country / region code	PDU MFI #	Line cord MFI #
Guinea	679	40Y0718 (International)	52P3710
Guyana	640	40Y0718 (International)	52P3710
Haiti	733	40Y0734 (North America)	NA - Attached to PDU
Honduras	735	40Y0734 (North America)	NA - Attached to PDU
Hong Kong	738	40Y0718 (International)	52P3710
Hungary	740	40Y0718 (International)	52P3710
Iceland	742	40Y0718 (International)	52P3710
India	744	40Y0718 (International)	52P3710
Indonesia	749	40Y0734 (North America)	NA - Attached to PDU
Iran, Islamic Republic of	750	40Y0718 (International)	52P3710
Iraq	752	40Y0718 (International)	52P3710
Ireland	754	40Y0718 (International)	52P3710
Israel	756	Not supported	Not supported
Italy	758	40Y0718 (International)	52P3710
Ivory Coast (Cote d'Ivoire)	637	40Y0718 (International)	52P3710
Jamaica	759	40Y0734 (North America)	NA - Attached to PDU
Japan	760	40Y0734 (North America)	NA - Attached to PDU
Jordan	762	40Y0718 (International)	52P3710
Kazakhstan	694	40Y0718 (International)	52P3710
Kenya	764	40Y0718 (International)	52P3710
Korea, Republic of	766	40Y0718 (International)	52P3710
Kuwait	767	40Y0718 (International)	52P3710
Kyrgyzstan	695		
Latvia	608	Not supported	Not supported
Lebanon	768	40Y0718 (International)	52P3710
Lesotho	711	40Y0718 (International)	52P3710
Liberia	770	40Y0718 (International)	52P3710
Libyan Arab Jamahiriya	772	40Y0718 (International)	52P3710
Liechtenstein	664	Not supported	Not supported
Lithuania	638	Not supported	Not supported
Luxembourg	381		
Macedonia, The former Yugoslav Republic of	705	40Y0718 (International)	52P3710
Macao	736		
Madagascar	700		
Malawi	769	40Y0718 (International)	52P3710

Country name	country / region code	PDU MFI #	Line cord MFI #
Malaysia	778	40Y0718 (International)	52P3710
Mali	382	40Y0718 (International)	52P7310
Malta	780	40Y0718 (International)	52P7310
Mauritania	717	40Y0718 (International)	52P7310
Mexico	781	40Y0734 (North America)	NA - Attached to PDU
Middle East Direct Business	675		
Moldova, Republic of	787	40Y0718 (International)	52P7310
Montenegro	713		
Morocco	642	40Y0718 (International)	52P7310
Mozambique	782	40Y0718 (International)	52P7310
Myanmar	646	40Y0718 (International)	52P7310
Nambia	682		
Nepal	790		
Netherlands	788	40Y0718 (International)	52P7310
Netherlands Antilles	791	40Y0734 (North America)	NA - Attached to PDU
New Caledonia	794	40Y0718 (International)	52P7310
New Zealand	796		
Nicaragua	799	40Y0734 (North America)	NA - Attached to PDU
Niger	880	40Y0718 (International)	52P7310
Nigeria	804	40Y0718 (International)	52P7310
Norway	806	40Y0718 (International)	52P7310
Oman	805	40Y0718 (International)	52P7310
Pakistan	808	40Y0718 (International)	52P7310
Panama	811	40Y0734 (North America)	NA - Attached to PDU
Paraguay	813	40Y0718 (International)	52P7310
Peru	815	40Y0718 (International)	52P7310
Phillipines	818	40Y0718 (International)	52P7310
Poland	820	40Y0718 (International)	52P7310
Portugal	822	40Y0718 (International)	52P7310
Puerto Rico	878	40Y0734 (North America)	NA - Attached to PDU
Qatar	823	40Y0718 (International)	52P7310
Reunion	584	40Y0718 (International)	52P7310
Romania	826	40Y0718 (International)	52P7310
Russian Federation	821	40Y0718 (International)	52P7310
Rwanda	831	40Y0718 (International)	52P7310
Saint Lucia	839	40Y0718 (International)	52P7310

Country name	country / region code	PDU MFI #	Line cord MFI #
Sao Tome and Principe	827	40Y0718 (International)	52P7310
Saudi Arabia	832	40Y0718 (International)	52P7310
Senegal	635	40Y0718 (International)	52P7310
Sierra Leone	833	40Y0718 (International)	52P7310
Singapore	834	40Y0718 (International)	52P7310
Slovakia	693	40Y0718 (International)	52P7310
Slovenia	708	40Y0718 (International)	52P7310
Somalia	835	40Y0718 (International)	52P7310
South Africa	864	40Y0718 (International)	52P7310
Spain	838	40Y0718 (International)	52P7310
Sri Lanka	652	40Y0718 (International)	52P7310
Sudan	842	40Y0718 (International)	52P7310
Surinam	843	40Y0734 (North America)	NA - Attached to PDU
Swaziland	853		
Sweden	846	Not supported	Not supported
Switzerland	848	Not supported	Not supported
Syrian Arab Republic	850	40Y0718 (International)	52P7310
Szekesfehervar (Hungary)	728		
Taiwan	858	40Y0734 (North America)	NA - Attached to PDU
Tajikistan	363		
Tanzania, United Republic of	851	40Y0718 (International)	52P7310
Thailand	856	40Y0718 (International)	52P7310
Togo	718	40Y0718 (International)	52P7310
Trinidad and Tobago	859	40Y0734 (North America)	NA - Attached to PDU
Tunisia	729	40Y0718 (International)	52P7310
Turkey	862	Not supported	Not supported
Turkmenistan	359		
Uganda	857	40Y0718 (International)	52P7310
Ukraine	889	40Y0718 (International)	52P7310
United Arab Emirates	677	40Y0718 (International)	52P7310
United Kingdom	866	40Y0718 (International)	52P7310
United Kingdom	875	40Y0718 (International)	52P7310
United States	0	40Y0734 (North America)	NA - Attached to PDU
Uruguay	869	40Y0718 (International)	52P7310
Uzbekistan	741	40Y0718 (International)	52P7310
Venezuela	871	40Y0734 (North America)	NA - Attached to PDU

Country name	country / region code	PDU MFI #	Line cord MFI #
Vietnam	852	40Y0718 (International)	52P7310
Vietnam - 2nd Entry	855	40Y0718 (International)	52P7310
Yemen	849	40Y0718 (International)	52P7310
Serbia (Formerly Yugoslavia)	707	40Y0718 (International)	52P7310
Zambia	883	40Y0718 (International)	52P7310
Zimbabwe	825	40Y0718 (International)	52P7310

14.7 1164-95X Dagger Rules

14.7.1 Dagger in the S42 Rack

Table 14-13: Dagger in S42 rack

Rules
The 1164-95X (Dagger) Rear Heat exchanger door is supported in the Constellation rack, 7965-S42. econfig will force the addition of the 1164-95X ordered with #ECR2 whenever a matching #ECR2 is ordered with the 7965-S42. This is because the 1164-95X uses special hinges for attachment to the S42. The existence of #ECR2 on both the 1164-95X and 7965-S42 will instruct MFC to assign the BOM with the proper hinges needed for use with the S42.
Rule for Dagger doors ordered with S42 ordered without #EDCL, #EDC0, #EDCS. If 7965-S42 is ordered with #ECR2 then (1) force the addition one 1164-95X and (2) add a matching #ECR2 to the 1164-95X MTM order.
Dagger (1164-95X) Rear Heat Exchanger Door is supported on Railhawk Rack (7953-94X) (#EC05) and Constellation Rack (7965-S42) (#ECR2). **Reference only:** On 6/13/17, the heat exchanger door was supported on the Constellation Rack (7965-S42)

14.7.2 Dagger System Overview

Table 14-14: Dagger Overview

Rules
Dagger is the internal name of the rear heat exchanger door that is being offered for the Railhawk and Constellation racks. It will be available for those rack customers that want to reduce the heat load output from the rack. Similar to other heat exchanger doors it will require a water inlet and outlet at the customers facility. It will have it’s own MTM because it will have different terms and conditions than the main racks. The MTM = 1164-95X.

14.7.3 Dagger Minimum Configuration

Table 14-15: Dagger Min Config

Rules
There are no minimum configuration requirements, All the required hardware will be part of the base MFIBM.

14.7.4 Dagger Configuration and Placement Rules

Table 14-16: Dagger Configuration rules

Rule	Details
1	It is not supported in the 7014-T00/T42/B42/S11/S25 or the #0551, #0553, #0554, #0555 racks.
2	There are no power requirements for the 1164-95X.
3	A customer will indicate that he plans to use a 1164-95X door with their rack by selecting one of the following features: • Constellation rack (7965-S42) by selecting #ECR2 • Railhawk rack (7953-94X) by selecting #EC05.
4	If ordering in Constellation rack (7965-S42): • Starting 6/13/2017, 7965-S42 rack customers will indicate they plan to use a 95X Heat exchanger door on their rack by ordering #ECR2 on both 7965-S42 and 1164-95X. #ECR2 provides the appropriate hinges needed to install the 95X on the S42 rack. • #ECR2 will have a maximum of 1 and orderable on both initial and MES orders.
5	If ordering in Railhawk rack (7965-94Y/7953-94X): • Customer must select either #EC05 or #EC02. • The 95X heat exchanger door is installed in the rear of the Railhawk rack in place of the standard rear door. • #EC02 and #EC05 are withdrawn effective December, 2020
6	On 6/13/2017, #EDC0 will be orderable on the 1164-95X and 7965-S42 to support Coral Compute racks for Oakridge National Labs. #EDC0 will have a max of 1 and orderable in initial and MES orders
9	Per defect ICIIN9355401, If an 1164-95X is ordered without a 7953-94X, 7965-94Y or 7965-S42 rack, the following must read message will be posted: "The 1164-95X is designed for use on 7953-94X, 7965-94Y and 7965-S42 racks only. If ordering for the 7965-S42 rack, FC ECR2 is required on the 1164-95X order."

14.7.5 Dagger Misc FCs

There are no unique FCs for the 94X. The only FCs offered are the following indicator codes listed below:

Table 14-17: Dagger indicator codes

FC	Description	Notes or announce
#0002	SDI ORDER INDICATOR - ISU	10/09/2012
#0003	BULK MES ORDER INDICATOR - SDI/OEM	
#0005	SDI BILLING ADJUSTMENT INDICATOR, US	
#0009	SDI ORDER INDICATOR - DO NOT BUILD (CHINA AND KOREA ONLY AS of 11/2014)	
#0010	QTY=1, CSC BILLING UNIT	
#0011	QTY=10, CSC BILLING UNIT	
#0983	ASSEMBLED IN COMPLIANCE WITH US TRADE AGREEMENT ACT INDICATOR	
#1140	CSC ORDER ROUTING INDICATOR - ROCHESTER	
#7770	OEM (GENERIC) INDICATOR	
#7773	OEM (GROUPE BULL) INDICATOR	
#7775	OEM (HITACHI) INDICATOR	
#7779	OEM INDICATOR, IBM LOGO/OEM PUBS	
#777A	Inspur Power Indicator	4/24/2018
#9169	System Plant Order Routing Indicator	

FC	Description	Notes or announce
#9993	'RENOVATED BY IBM' INDICATOR	
#B0LG	SERVICEPAC NOT SELECTED	
#B0LH	SERVICE RENEWAL REQUESTED	
#ECR2	HEAT EXCHANGER REAR DOOR INDICATOR FOR S42 RACK	6/13/2017 See also Table 14-16
#ECSC	CSC ORDER ROUTING INDICATOR/VAD SPECIFY - SHENZHEN	
#ECSJ	NEUCLOUD LOGOED VERSION OF POWER SERVERS FOR BUY LOCAL CHINA MARKET	
#ECSM	CSC ORDER ROUTING INDICATOR - MEXICO	
#ECSP	CSC ORDER ROUTING INDICATOR - POUGHKEEPSIE	
#EDC0	ORNL CONFIGURATION INDICATOR	6/13/2017 See also Table 14-16
#EHPC	INDICATOR FC FOR HPC ORDER	
#ESC0	Shipping and Handling (No Charge)	1, 2, 3, 4
#ESC2	Shipping and Handling	1, 2, 3, 4

Notes	Details
1	Shipping and Handling feature code charges will be defaulted in eConfig for all Power MTMs except for NGP and Enterprise which will default the zero-price feature code.
2	The following eConfig warning message is to be displayed if the defaulted charged S&H feature code is removed. *"Warning! This feature code can not be removed unless required per an existing contractual agreement or for competitive bid reasons. By removing this feature code you are agreeing that such a contract exists or that your IOT representative is in agreement."*
3	New Orders - all new MTMs purchased will have either a S&H charge feature code or a zero-charge feature code (per the excel file).
4	MES Orders – Loose piece - no S&H charge (eConfig brings in existing MTM and adds features to the config, which will not add S&H charges) – Serial number upgrades - S&H charge (econfig brings in existing MTM and converts to a new MTM, which will get S&H charges). – For initial orders where the country code is 672 (China mainland) and #7770 (OEM (GENERIC) INDICATOR) in the order, #ECSJ is selectable, but not defaulted. • #ECS0 (MADE IN CHINA INDICATOR) is not allowed with #ECSJ. • #ECSJ is not allowed with #777A (Inspur Power Indicator) (starting 4/24/18)

Figure 14-2 Primary cooling loop and the secondary cooling loop.

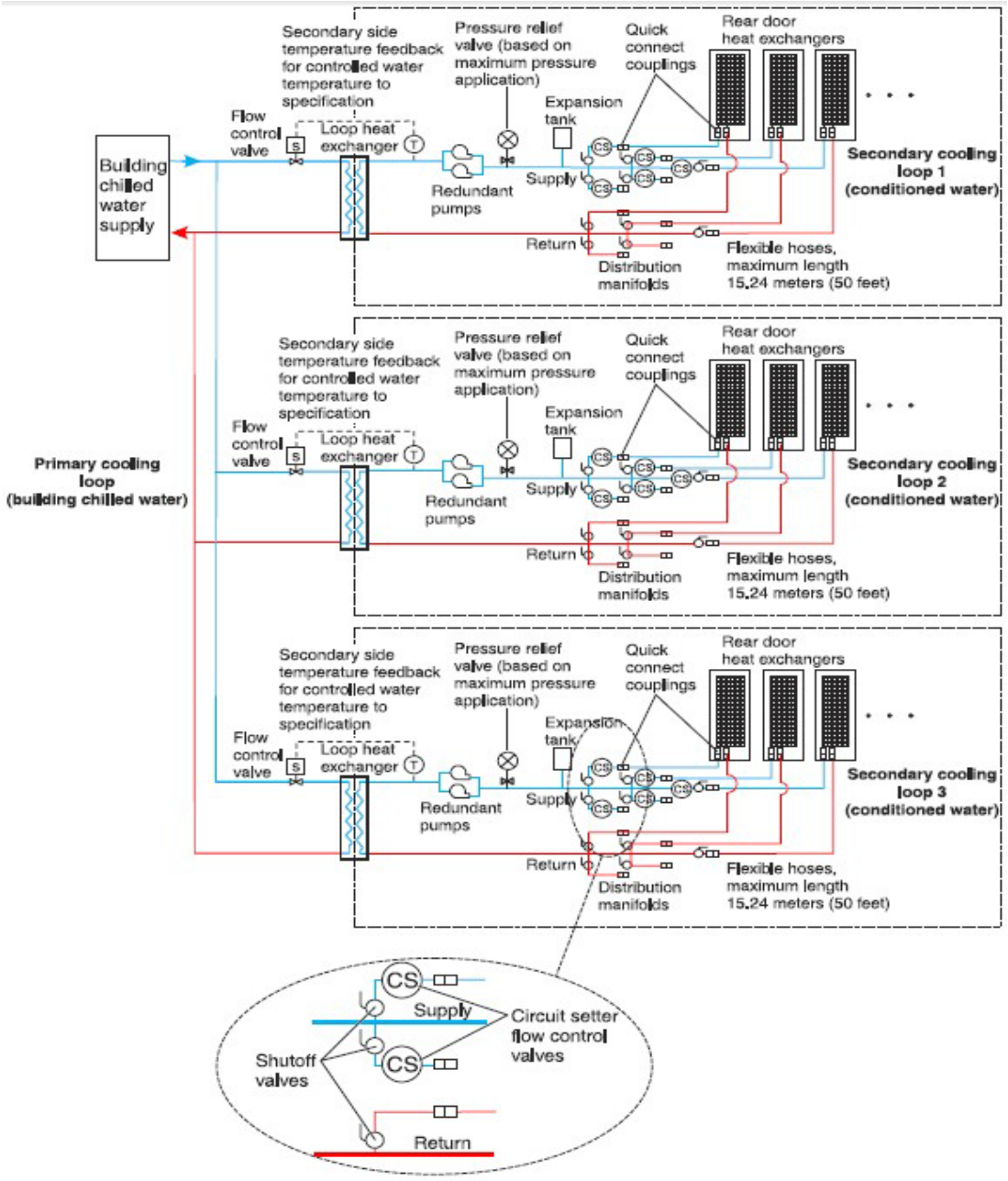
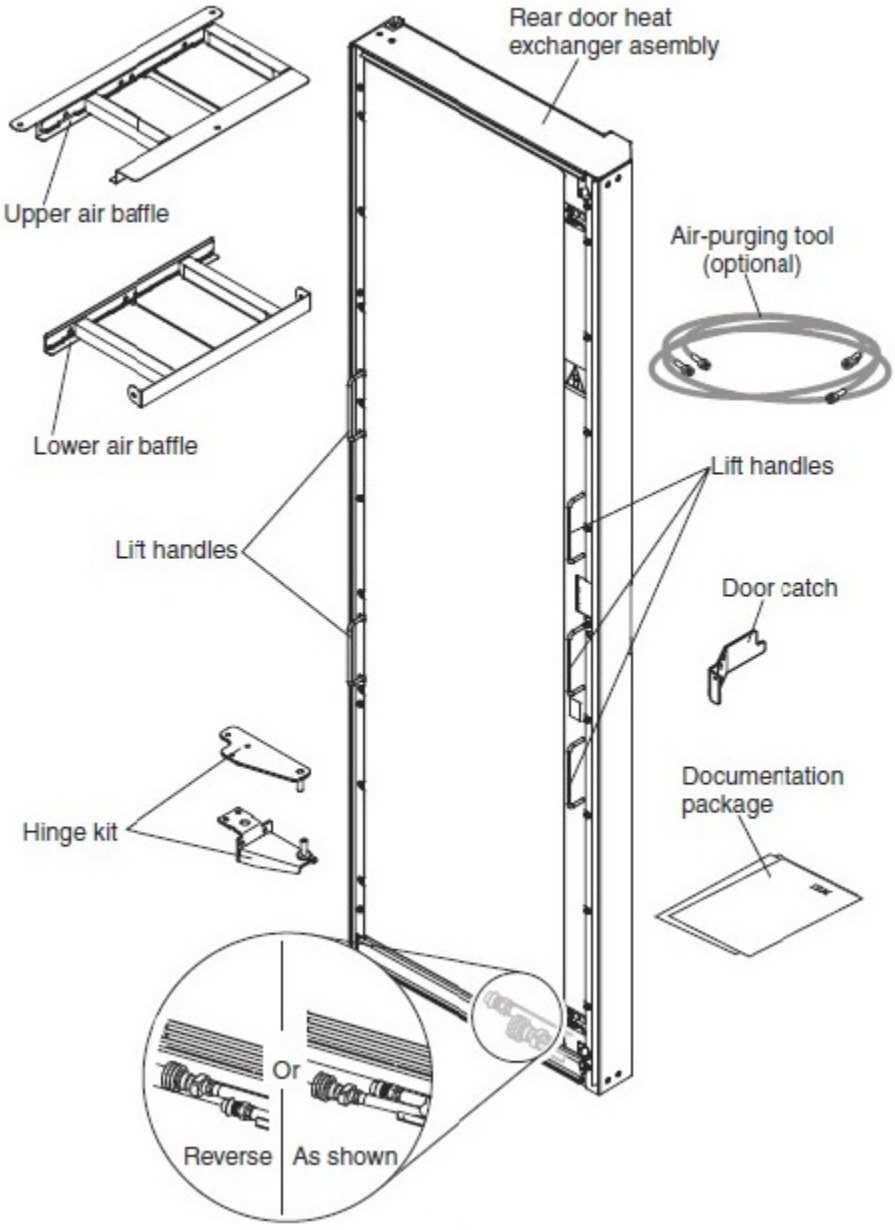


Figure 14-3 The rear door heat exchanger for the rack.



Chapter 15: Special Configurations

15.1 Coral Bid Rules

Table 15-1: Coral Bid Rules

Rules
The S42 will be used to support the Coral Bid. As such, the following three indicators have been created to drive special rules that will apply to those types of rack configs. Currently there are three types of racks: Lawrence Livermore National Labs (LLNL) Compute rack, Oakridge National Labs (ORNL) Compute rack, and Infrastructure racks.
The indicator codes that will be used to distinguish between these three types of racks. Ryan Paske currently owns a BOM that defines the minimum required FCs and special rules. The BOM is still underdevelopment but a link will be posted here when the initial version is available.
The Coral Bid will also use a unique 6’ tall PDU (#EPTT). This PDU is listed here because it will be restricted only for Coral orders.

Table 15-2: Coral Bid PDUs

FC	Description	Max	Notes
Coral Rack Indicator Codes			
#EDCL	LLNL CONFIGURATION INDICATOR	1	1, 2
#EDC0	ORNL CONFIGURATION INDICATOR	1	1, 2
#EDCS	ORNL/LLNL INFRASTRUCTURE CONFIG INDICATOR	1	1, 2
6’ PDU restricted to Coral orders			
#EPTT	6FT PDU, US, 3-PH 80A, 277/480V WYE, 36xRF-203P-M AND 6xC13 OUTPUTS, RJ45 PORT, FIXED PWR CORD, NO PLUG	1	3
Notes	**Details**		
1	#EDCL, #EDC0 and #EDCS are mutually exclusive.		
2	Sum of #EDCL, #EDC0 and #EDCS must 0 or 1.		
3	#EPTT requires #EDCL or #EDC0 on the order.		

Chapter 16: Ship Group

Table 16-1: Ship Group

Details
Typical ship group items are: nutclips, pubs, and anti-tip plates

Chapter 17: Boot devices

Description: N/A

Chapter 18: Operating System

Description: N/A

Chapter 19: Base mechanicals

19.1 Base Mechanicals

Table 19-1: Base Mechanicals

Description
The base rack will not contain any pdus, doors or sidecovers. It will only contain the base structure seen below, the front anti-tip plate and leveler wrench. Ballasts will be available (no FC) but their assignment will depend on the rack configuration. The details of the ballasts assignments are still being worked.

Figure 19-1 Base Assembly of S42 Rack

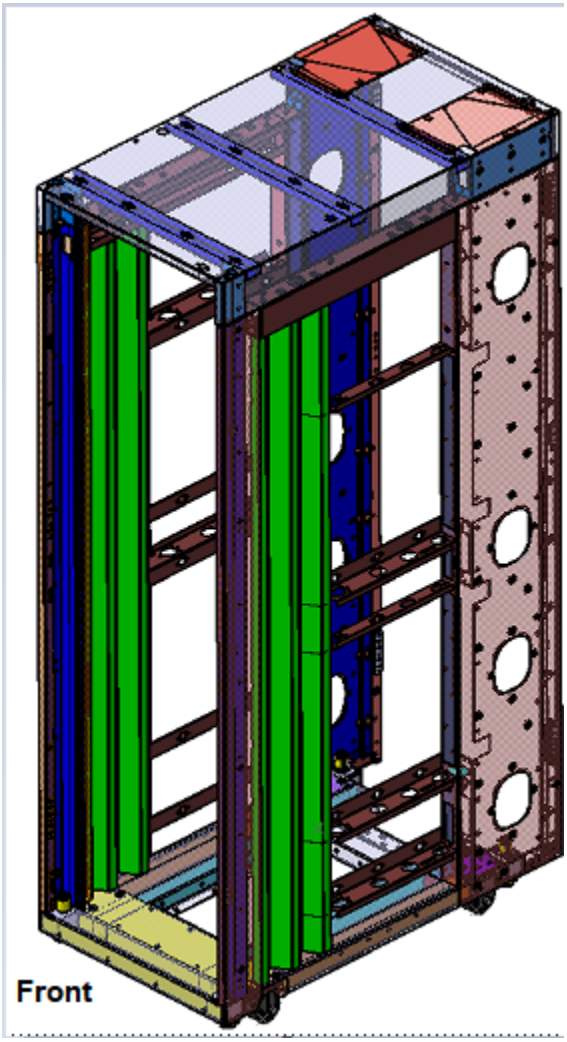
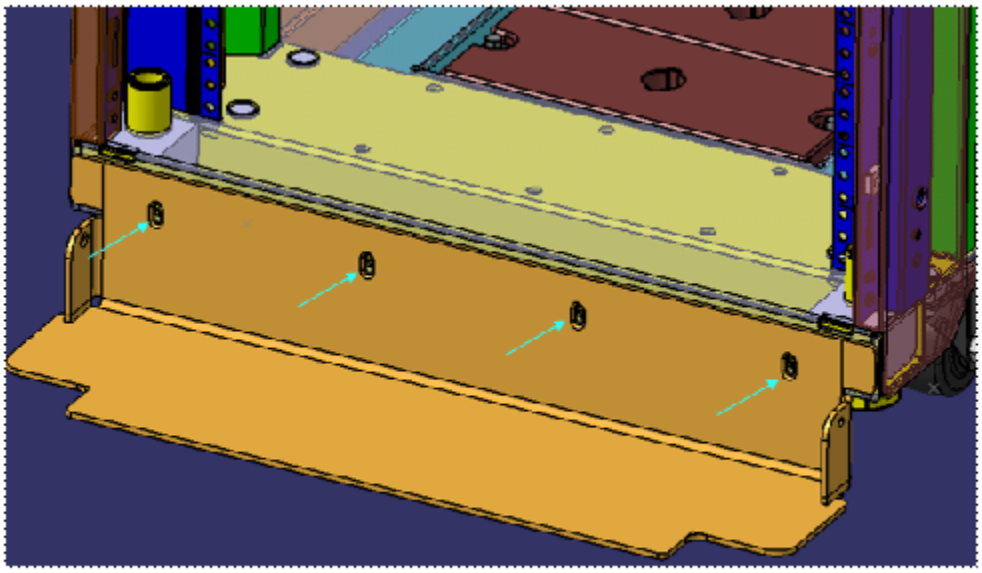


Figure 19-2 S42 Rack Anti-tip plate



Note: The anti-tip plate mounts in the bottom front of the rack as shown. It is part of the base mechanical assembly.

Table 19-2: S42 Details

Description	FBM
7965-S42 Base	
Anti-tip Plate	
Leveler Wrench	

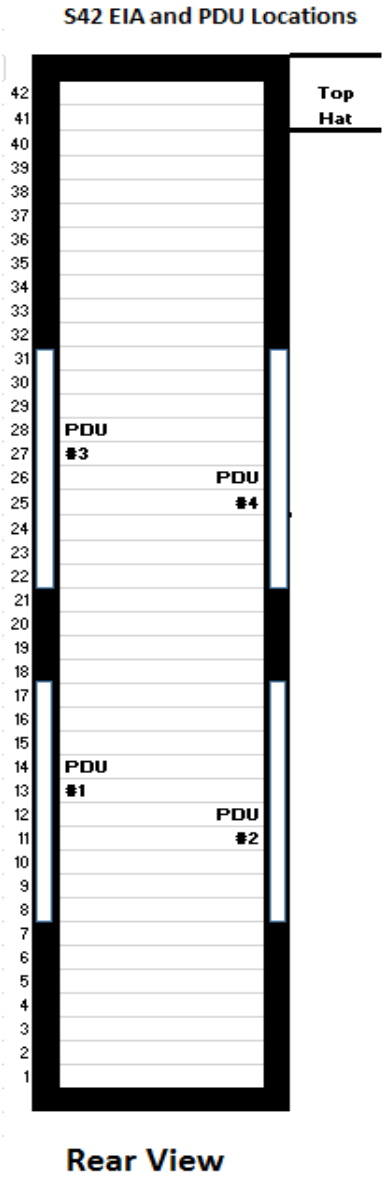
Chapter 20: Physical Location Codes

20.1 EIA Location Codes

Table 20-1: EIA locations

Description
Physical location codes as used in CECs and I/O drawers do not apply to racks. The figure below shows the EIA locations and vertical PDU slot locations.

Figure 20-1 EIA location codes



Chapter 21: Partition Rules

Description: N/A

Chapter 22: Misc

22.1 General Rules and Restrictions:

Table 22-1: General Rules and Restrictions

Feature Code	Description	Notes or Announce
SDI Indicator Codes		
#0002	SDI ORDER INDICATOR - ISU	
#0005	SDI BILLING ADJUSTMENT INDICATOR, US	
#0009	SDI ORDER INDICATOR - DO NOT BUILD	
OEM Indicator codes		
#0003	BULK MES ORDER INDICATOR - SDI/OEM	
#0004	BULK MES ORDER INDICATOR - NON SDI/OEM	
#7770	OEM (GENERIC) INDICATOR	
#7773	OEM (GROUPE BULL) INDICATOR	
#7775	OEM (HITACHI) INDICATOR	
#7779	OEM INDICATOR, IBM LOGO/OEM PUBS	
#0010	QTY=1, CSC BILLING UNIT	
#0011	QTY=10, CSC BILLING UNIT	
#ECSJ	NEUCLOUD LOGOED VERSION OF POWER SERVERS FOR BUY LOCAL CHINA MARKET	
#777A	INSPUR POWER INDICATOR (4/24/18)	
Express Seller Indicator		
#0050	EXPRESS SELLER INDICATOR	
CSC/Plant Routing Indicators		
#9169	System Plant Order Routing Indicator	
#1140	CSC ORDER ROUTING INDICATOR - ROCHESTER	
#ECSM	CSC ORDER ROUTING INDICATOR - MEXICO	
#ECSP	CSC ORDER ROUTING INDICATOR - POUGHKEEPSIE	
#ECSF	CSC ORDER ROUTING INDICATOR - FRANCE	11/21/17
Manufacturing tracking		
#9461	MONTH INDICATOR, QTY = 1 thru 12	
#9462	DAY INDICATOR, QTY = 1 THRU 31	
#9463	HOUR INDICATOR, QTY = 1 THRU 24	
#9464	MINUTE INDICATOR, QTY = 1 THRU 60	
#ERP0	RPO ORDER IDENTIFICATION	6 11/23/21
Compliance Indicators		

Feature Code	Description	Notes or Announce
#0983	ASSEMBLED IN COMPLIANCE WITH US TRADE AGREEMENT ACT INDICATOR (ORDERABLE IN THE US ONLY)	
#0984	ASSEMBLED IN THE USA INDICATOR (ORDERABLE IN THE US ONLY)	
#9993	'RENOVATED BY IBM' INDICATOR	
	General Lift Tool and Shelf	
#EB3Z	GENERAL USE (LOW-COST) LIFT TOOL	1 11/7/17
	Solution Indicators	
#ECL0	Power ACP Solution Specify	5 8/7/18
#ER2L	Rack Content Specify: 8831-00M 1EIA	5 10/09/18
#ERCC	ESS SN1 Solution Specify	5 10/8/19
#ESZV	ESS GL5C SOLUTION SPECIFY (10TB HDD) - 5280TB RAW DISK CAPACITY	5
#ESZW	ESS GL5C SOLUTION SPECIFY (14TB HDD) - 7392TB RAW DISK CAPACITY	5
#EGLA	ESS GL3S SOLUTION SPECIFY (4TB HDD) - 1000TB RAW DISK CAPACITY	5 10/8/19
#EGLB	ESS GL3S SOLUTION SPECIFY (8TB HDD) - 2000TB RAW DISK CAPACITY	5 10/8/19
#EGLC	ESS GL3S SOLUTION SPECIFY (10TB HDD) - 2500TB RAW DISK CAPACITY	5 10/8/19
#EGLD	ESS GL3S SOLUTION SPECIFY (14TB HDD) - 3500TB RAW DISK CAPACITY	5 10/8/19
#EGLE	ESS GL3C SOLUTION SPECIFY (10TB HDD) - 3160TB RAW DISK CAPACITY	5 10/8/19
#EGLF	ESS GL3C SOLUTION SPECIFY (14TB HDD) - 4424TB RAW DISK CAPACITY	5 10/8/19
#ERC9	RACK CONTENT SPECIFY: 5105-22E - 2EIA.	5 ~~4/14/20~~ 7/7/20
#ERCA	RACK CONTENT SPECIFY: 8831-25M - 1EIA	5 4/14/20
#ESCF	ESS SC1 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCG	ESS SC2 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCH	ESS SC3 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCJ	ESS SC4 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCK	ESS SC5 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCL	ESS SC6 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20

Feature Code	Description	Notes or Announce
#ESCM	ESS SC7 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESCN	ESS SC8 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL1	ESS SL1 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL2	ESS SL2 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL3	ESS SL3 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL4	ESS SL4 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL5	ESS SL5 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ESL6	ESS SL6 SOLUTION SPECIFY	5 ~~4/14/20~~ 7/7/20
#ELG1	INTELLIGENT EDGE SYSTEM INDICATOR	11/17/20
#ELG3	BAYESIAN OPTIMIZATION ACCELERATOR SOLUTION INDICATOR	11/17/20
Storage Flashsystem Rack Solution		
#ECRS	FLASHSYSTEM FRONT DOOR RACK	2 1/14/20
#ERCH	RACK CONTENT SPECIFY: 8960-F24 - 1EIA	3 1/14/20
#ERCJ	RACK CONTENT SPECIFY: 8977-T32 - 1EIA	3 1/14/20
#ERCK	RACK CONTENT SPECIFY: 9848-A9F - 5EIA	3 1/14/20
#ERCL	RACK CONTENT SPECIFY: 9848-AFF - 2EIA	3 1/14/20
#ERCM	RACK CONTENT SPECIFY: 9848-AG8 - 2EIA	3 1/14/20
#FSRS	FLASHSYSTEM RACK SOLUTION SPECIFY	3 1/14/20
#RTSM	ROUTE TO STORAGE MANUFACTURING INDICATOR	3 1/14/20
Appliance Offerings		
#EAP4	Cloud Pak System W4600 (VMware) Consolidation Feature	4 10/06/20
#EAP7	Cloud Pak System W4700 Consolidation Feature	4 10/06/20
#EAP9	Cloud Pak System Compute Node (SR630 M6) BA Mtg HW & Drwr to PDU Cords	4 10/06/20
#EAPA	Rack Content Specify: Cloud Pak System PSM Node (SR630 M6) - 1EIA	4 10/06/20

Feature Code	Description	Notes or Announce
#EAPB	Rack Content Specify: V7200 Controller Drawer (2076-824) - 2EIA	4 10/06/20
#ERC4	Rack Content Specify: 8960-F64 - 1EIA	4 10/06/20

Notes	Details
1	The lift tool is an optional FC that is offered to help customers install their Power devices into MTM and FCed racks in their datacenters. A wedge shelf (#EB4Z) that is used with the #EB3Z is also offered with Power 8 systems (Tuleta, Alpine, Brazos) to install Power8 CECs in the rack. #EB4Z is not offered with the MTM racks since only Power8 customers would use it
2	On 5/26/20 this front door also will be available with Power config not just storage. It will also change from “initial only” to “both”. Also available for both Storage and Power.
3	Storage Only • The FCs identified as for “Storage Only” are S42 features that will be used in a Storage Solution called “Storage Flashsystem Rack Solution” • **Reference only**: These FCs were requested by Jim Johnstone. They are included here for reference only.
4	These FCs are restricted for Appliance offerings managed by the Solutions team. Note:These FCs were requested by Jim Johnstone. They are included here for reference only. #EAP4, #EAP7, #EAP9, #EAPA, #EAPB and #ERC4 are internal announce only and will not be listed in econfig.
5	**Reference only**: These indicators are used in integrated solutions offerings owned by Jim Johnstone. They are included here for reference only.
6	#ERP0 is not a normal orderable feature and is announced as “RPO Only” and is N/C. It will automatically be put on by the configurator in the RPO section of the output, whenever there is an RPO only transaction. Configurator should treat it as a “supported only” feature. For more information see https://jsw.ibm.com/browse/GPEPR-3647 **Reference Only:** This feature was requested by Pat Reuvers as a MFG trigger only. It does not ship anything and does not impact the normal customer order.

Chapter 23: Geo Related

Description: N/A

Chapter 24: Incomplete System Units

Table 24-1: ISUs

Details
For additional information, please see “EPS eConfig Requirements” file in feature matrix. Go to eServer Build Instructions area, file is located toward the bottom under Miscellaneous Reports.

Chapter A: #ECR0 Feature Coded Rack Rules

A.1 General Rules

Table A-1: Support of #ECR0 rack

Rule	Details
1	Feature Code #ECR0 is a feature coded version of the S42 rack that is offered as part of the server offerings. They are offered for the server customer that wants to MES additional I/O drawers to their existing server configuration and need an additional rack to install it in. The table below shows the feature codes that are supported in a #ECR0 feature coded rack. The actual pdus supported will depend on the server model and will be listed in server MTM BI.
2	The #ECR0 does not come equipped with a standard front door, rear door or side covers. A front door, rear door and side covers FC is required with every #ECR0. These rules are noted in the “Supported Features of FC ECR0” table below.
3	The same placement rules that apply to the S42 rack also apply to the #ECR0 racks.
4	The #ECR0 rack is MES only
5	Refer to the specific server MTM for a list of the PDUs that are orderable with the server. The same PDUs (power distribution units) that are supported in the S42 racks are generally also supported in the #ECR0 racks.
6	DC features are not supported on the #ECR0 rack.
7	Rack content specify FCs are only used in the S42 rack. One of the reasons for this is that the rack content specify codes are initial order only.
8	An #ECR0 rack is not required in order to allow PDUs to be ordered as part of the server.
9	The same pdu placement rules that apply to the S42 rack also apply to the #ECR0 rack. For example, if Mex drawers are to be rack integrated in the #ECR0 then all PDUs must be mounted horizontally just like they are in the S42 rack. See “PDU Rules” on page 29
10	In Brazos model conversions that include an #ECR0 rack, Brazos CECs are not supported for factory integration in the #ECR0 rack. Note: There are no model conversions of Alpine/Alpine-PDQ systems but if there were the same rule would apply for Alpine/Alpine-PDQ on the #ECR0 rack.
11	Per PCR 5135, #ECRT front door is not supported in #ECR0.
12	Power 8 and Power 9 ~~and Power 10~~ Servers that support #ECR0: • Power8: – 8408-E8E/44E (Alpine/PDQ) – 9119-MME/MHE (Brazos) – 9080-MME/MHE (BrazosC – 8247-21L/22L/42L (Tuleta) – 8284-21A/22A (Tuleta) – 8286-41A/42A (Tuleta) • Power9: – 9009-22A/41A/42A/22G/41G/42G (ZZ/G) – 9223-22H/42H (ZZ clone) – 9223-22S/42S (ZZG clone) (10/06/20) – 9008-22L (ZZ) – 9040-MR9 (Zeppelin) – 9080-M9S (Fleetwood) ~~• Power 10:~~ ~~– 9105-22A/22B/41B/42A/42B (Rainier)~~ ~~– 9786-22H/42H (Rainier Sap Hana)~~ ~~– 9040-9043-MRX (Everest)~~ ~~9080-HEX (Denali)~~ Note: ECR0 is not offered with Power 10 systems

Table A-2: Supported Features of #ECR0 rack

FC	Description	Notes or Announce
#ECRF	FRONT DOOR (HIGH-END APPEARANCE) FOR S42 RACK	1, 3
#ECRA	ACOUSTIC FRONT DOOR (BLACK) FOR S42 RACK	2, 3
#ECRM	FRONT DOOR (BLACK/FLAT) FOR S42 RACK	3 11/7/17
#ECRG	REAR DOOR (BLACK/FLAT) FOR S42 RACK-IBM/OEM	3
#ECRJ	SIDE COVER KIT (BLACK) FOR S42 RACK	3
#ECRF	FRONT DOOR (HIGH-END APPEARANCE) FOR S42 RACK	3
PDUs		
#ECJJ	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A WYE, 9XC19 OUTPUTS, SWITCHED, UTG624-7 INLET (CAJA VERSION OF EPTJ)	4 10/22/19
#ECJL	ADDTNL PDU, US 3-PH 24A, 3-PH 40A, 3-PH 48A DELTA, 9XC19 OUTPUTS, SWITCHED, AMPHENOL INLET (CAJA VERSION OF EPTL)	4 10/22/19
#ECJN	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A WYE, 12XC13 OUTPUTS, SWITCHED, UTG624-7 INLET (CAJA VERSION OF EPTN)	4 10/22/19
#ECJQ	ADDTNL PDU, US 3-PH 24A, 3-PH 40A, 3-PH 48A DELTA, 12XC13 OUTPUTS, SWITCHED, AMPHENOL INLET (CAJA VERSION OF EPTQ)	4 10/22/19
#EPTJ	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A, 9XC19 OUTPUTS, SWITCHED, UTG624-7 INLET	4
#EPTL	ADDTNL PDU, US 3-PH 48A, 9XC19 OUTPUTS, SWITCHED, **FIXED** PWR CORD, IEC309 60A PLUG(3P+G)	4
#EPTN	ADDTNL PDU, WW, 1-PH 24/48A, 1-PH 32/63A, 3-PH 16/32A, 12XC13 OUTPUTS, SWITCHED, UTG624-7 INLET	4
#EPTQ	ADDTNL PDU, US 3-PH 48A, 12XC13 OUTPUTS, SWITCHED, FIXED PWR CORD, IEC309 60A PLUG(3P+G)	4
#7188	PDU, WW, 1-PH 24/48A, 3-PH 16/24A, 12XC13 OUTLETS, UTG0247 INPUT <7188 ON P>	4
Other features		
#ELC0	0.38M, WW, UTG to UTG INTERNAL JUMPER CORD (PIGTAIL)	5
#EPTH	HORIZONTAL MOUNTING HARDWARE FOR AC PDUS (POTENCIA): EPTG/J/K/L/M/N/P/Q OR (CAJA) ECJG/J/K/L/M/N/P/Q	6
#ECRK	RACK REAR EXTENSION (5 inch) FOR S42	9
Linecords		
#6489	LINECORD, PDU TO WALL, 14' 380-415V/ 3PH/32A, UTG0247, IEC309 32A 3P+N+G	7
#6491	INECORD, PDU TO WALL, 14', 200-240V/63A, UTG0247, IEC309 63A P+N+G	7
#6492	LINECORD, PDU TO WALL, 14', 200-240V/48A, UTG0247, IEC309 60A 2P+G	7
#6653	LINECORD, PDU TO WALL, 14', 380-415V/3PH/16A, UTG0247, IEC309 16A 3P+N+G	7
#6654	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#12 NEMA L6-30P 30A	7
#6655	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#40 RUSSEL STOLL 3750DP	7
#6656	LINECORD, PDU TO WALL, 14', 200-240V/32A, UTG0247, IEC309 32A P+N+G	7
#6657	LINECORD, PDU TO WALL, 14', 200-240V/24A 32A, UTG0247, PT#PDL AUSTRALIA/NZ	7
#6658	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, PT#KP KOREAN PLUG 30A	7
#6667	LINECORD, PDU TO WALL, 14', 380-415V/3PH/32A, UTG0247, PDL 56P532, AUSTRALIA	7

FC	Description	Notes or Announce
#ELC1	LINECORD, PDU TO WALL, 14', 200-240V/24A, UTG0247, IEC309 30A P+N+G NORTH AMERICA	7 ~~08/24/21~~ 09/08/21
#ELC2	LINECORD, PDU TO WALL, 14', 415V/3PH/24A, UTG0247, IEC309 30A 3P+N+G NORTH AMERICA	7 ~~08/24/21~~ 09/08/21
#ECJ5	LINECORD, PDU TO WALL, 14', 200-240V/3PH/24A, AMPHENOL, IEC309 30A 3P+G	8 10/22/19
#ECJ6	LINECORD, PDU TO WALL, 14', 200-240V/3PH/40A, AMPHENOL, CS8365	8 ~~08/24/21~~ 09/08/21
#ECJ7	LINECORD, PDU TO WALL, 14', 200-240V/3PH/48A, AMPHENOL, IEC309 60A 3P+G	10/22/19

Note	Details
1	Default except for 9080-M9S, 9080-HEX
2	Supported and defaulted only on 9080-M9S, 9080-HEX
3	A. The following are required per #ECR0 – Qty 1x #ECRF, #ECRM or #ECRA and – Qty 1x #ECRG and – Qty 2x #ECRJ – These are also the maximums allowed per #ECR0 rack. B. #ECRF and #ECRM are mutually exclusive. #ECRF will continue to be the default for all available servers except those listed in bullet E below. – #ECRM announces 11/7/17 on the Power8 servers (8247-21L/22L/42L, 8284-21A/22A, 8286-41A/42A, 8408-E8E/44E, 9119-MME/MHE, 9080-MME/MHE). – This means that on 10/7/17, the #ECRF will be the only front door available for an #ECR0 rack. C. #ECR0 customers will have an option of the #ECRF or #ECRM front door starting on 11/7/17. D. On 8/7/18, #ECRA will announce as supported only on Fleetwood (9080-M9S). E. After 8/7/18 #ECRA will be the default of #ECR0 ordered with 9080-M9S and 9080-HEX
4	#ECR0 supports these PDUs. Refer to the server BI to determine which PDUs are supported with the server offering
5	#ELC0 provides a 0.38M internal jumper cord (pigtail). #ELC0 is required for every PDU (except #ECJL and #ECJQ) that is vertically mounted. A max of 4 vertically mounted PDUs per #ECR0 is allowed. #ELC0 is not supported on #ECJL and #ECJQ PDUs.
6	#EPTH provides horizontal mounting hardware for #EPTG/#EPTJ/#EPTK/#EPTL/#EPTM/#EPTN/#EPTP/#EPTQ and #ECJG/ #ECJJ/#ECJK/#ECJL/#ECJM/#ECJN/#ECJP/#ECJQ It is never required **Reference only:** NewC assigns the necessary mounting hardware on factory integrated orders. It is offered for those customers that either order the PDUs without a rack or customers that want to convert a vertical mounted pdus to the horizontal position.
7	#EPTJ, #EPTL, #EPTN, #EPTQ, #ECJJ, #ECJN and #7188 PDUs require one of the following linecords per PDU. #EPTL and E#PTQ include a fixed linecord and therefore do not have this requirement.
8	#ECJL and #ECJQ PDUs require one of these linecords per PDU.
9	• #ECRK is entirely optional and never required. The max is ~~one~~ two per #ECR0 rack. • 2x #ECRK per #ECR0 are allowed to be stacked together for a 10 inch rear extension.

A.2 PDU Rules

A.2.1 Consolidated rules (as of 7/01/19) for PDUs ordered on Servers

Table A-3: Consolidated PDU rules

Rule	Details
1	PDUs ordered with servers are for those customers that want to buy IBM PDUs with their server order to either use with their IBM FCed rack (#0551, #0553, #ER05 or #ECR0) or use them in their own non-IBM rack (no FCed rack on the order). As such, the following PDU rules apply for servers that are ordered without a rack MTM.
2	If a server is ordered with a rack MTM is it assumed that the customer will be integrating that server in the rack MTM and the PDUs will be ordered as part of the rack MTM. Servers that are ordered without a rack MTM are referred to as “Standalone Servers”.
3	There are three categories of rules for servers ordered with PDUs documented in tables below: a. PDU rules that apply to servers ordered with or without a FCed rack #ECR0. Table A-3 on page 54 b. PDU rules that apply to servers ordered with a FCed rack #ECR0. Table A-4 on page 55 c. PDU rules that apply to servers without a FCed rack #ECR0. Table A-5 on page 55
4	**Reference only:** pre-potencia PDUs refer to the first PDUs announced with the rack MTMs 7014-T00/7014-T42. Potencia PDUs announced in 8/23/2016. Caja PDUs announce on 10/22/19

Table A-3: PDU Rules for standalone servers with or without FCed racks

Rule	Details
1	Base PDUs are not orderable in server orders. Base PDUs are only supported in 7014-T42/T00 racks. Base PDUs are PDUs whose cost is included as part of the T42/T00 rack. • pre-potencia: #5889, #9188, #EPAG • Potencia: #EPTG, #EPTK, #EPTM, #EPTP • Caja: #ECJG, #ECJK, #ECJM, #ECJP
2	#7109, #7188, #EPTJ, #EPTN, #ECJJ and #ECJN each require one of the following PDU linecords: #6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, #6658, #6667, #ELC1 or #ELC2.
3	Caja PDUs #ECJL and #ECJQ each require one of the following PDU linecords: #ECJ5, #ECJ6 or #ECJ7. Note: Caja PDUs #ECJL and #ECJQ and their required linecords #ECJ5, #ECJ6 and #ECJ7 are not supported in Hong Kong and China. A warning message will be posted in econfig.
4	Potencia PDU #EPTL and #EPTQ come with fixed linecords and therefore do not require a PDU linecord on the order.
5	#EPTH (Horizontal mounting hardware for Potencia and Caja PDUs) is a customer optional feature and will be sent as a ship group item. #EPTH is not supported on the #7188 PDU.
6	#ELC0 (pigtail) is not supported on PDUs with Amphenol connectors: #ECJL and #ECJQ. There is no pigtail available for PDUs with Amphenol connector.

Table A-4: PDU Rules for standalone servers ordered without a FCed rack

Rule	Details
1	pre-potencia/Potencia/Caja PDUs are orderable as either initial or MES on standalone server orders.
2	A FCed rack (eg #0551, #0553, #ER05, #ECR0) is not a pre-requisite for ordering PDUs with servers.
3	For orders that do not contain a FCed rack: If the power cables ordered are not compatible with the PDU receptacles ordered then the following informational warning message will be generated: "The power cables ordered do not match the PDU receptacles of the PDU on the order" . • The message will be triggered if #6458/#END2, #6671/#END1, or #6672/#END0 are not included with an order that contains #7109, #7188, #EPTN, #EPTQ, #ECJN or #ECJQ • The message will be triggered if #6665/#END5, #4558/#END8 or #ELC5/#END7 is not included with an order that contains #EPTJ, #EPTL, #ECJJ or #ECJL.
4	If a server is in the same order as a new IBM rack MTM (7014-T00/7014-T42, 7965-S42/7965-94Y) then the PDUs would be ordered with the MTM rack and not as part of the server.
5	For orders that do not contain a FCed rack, mixing of different PDU types is allowed. This includes mixing of ~~potencia pdus (#EPTJ/#EPTL/#EPTN/#EPTQ)~~, Caja pdus (#ECJJ/#ECJL/#ECJN/#ECJQ) with the pre-potencia pdus (#7188/#7109/#7196) and mixing of C19 pdus with C13 PDUs. As in the case of the MTM rack, mixing of potencia pdus (#EPTJ/#EPTL/#EPTN/#EPTQ) and Caja pdus (#ECJJ/#ECJL/#ECJN/#ECJQ) in a single MTM order is not allowed. **Reference only:** This is because potencia PDUs plan to be withdrawn on 1Q20 and functionally potencia and caja are identical.
6	For orders that do not contain a FCed rack, if Potencia PDUs or Caja PDUs are ordered as either initial or MES adds to server standalone orders then eConfig will default on the qty of #EPTH equal to the quantity of PDUs ordered. Customers can deselect or reduce qty of #EPTH as desired.

Table A-5: PDU Rules for standalone servers ordered with FCed racks

Rule	Details
1	pre-potencia/Potencia/Caja PDUs are orderable only as an MES.
2	A FCed rack (eg #0551, #0553, #ER05, #ECR0) is not a pre-requisite for ordering PDUs with servers.
3	The same server PDU factory integration rules used today on MES orders or upgrades that contain FCed racks will apply to all three PDU offerings: pre-Potencia/ Potencia and Caja PDUs.
4	For orders that contain a FCed rack, Mixing of pre-potencia/caja PDUs is allowed as long as all the PDUs are either all C13 or C19 types of PDUs. Mixing of Potencia and Caja PDUs on new MES orders of FCed racks is not allowed. Mixing of Potencia and Caja PDUs on field configs that already contain a FCed rack is allowed.
5	If a server is in the same order as a new IBM rack MTM (7014-T00/7014-T42, 7965-S42/7965-94Y)) then the PDUs would be ordered with the MTM rack and not as part of the server.
6	NewC will assign horizontal mounting hardware as necessary regardless of the existence of #EPTH on factory integrated PDUs

A.5.1 Original, non-consolidated PDU rules

Table A-4: Original PDU Rules

Rules
The rules below still apply but with the introduction of Caja PDUs on 10/22/19 have now been updated in “Consolidated rules (as of 7/01/19) for PDUs ordered on Servers” on page 54 above:
Affected MTMs (i.e MTMs that support #ECR0): • 9009-22A/42A/41A/22G/42G/41G (ZZ/G) • 9223-22H/42H (ZZ Clone) • 9008 -22L (ZZ-L) • 9040-MR9/ 9225-50H (Zeppelin) • 9080-M9S/9222-80H (Fleetwood) • 8408-E8E (Alpine) • 8408-44E (Alpine PDQ) • 9119-MME/MHE (Brazos) • 9080-MME/MHE (Brazos-Clone) • 8247-21L/22L/42L (Tuleta) • 8284-21A/22A (Tuleta) • 8286-41A/42A (Tuleta)
~~**Potencia PDU Rules for affected MTMs that apply with or without FCed racks:**~~ 1. ~~Potencia base PDUs (#EPTG, #EPTK, #EPTM, #EPTP) are not orderable in server orders. Base PDUs are only supported in 7014-T42/ 7014-T00 racks.~~ 2. ~~Potencia PDUs #EPTJ and #EPTN each require one of the following PDU linecords: #6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, #6658, or #6667.~~ 3. ~~Potencia PDU #EPTL and #EPTQ come with fixed linecords and therefore do not require a PDU linecord on the order.~~ 4. ~~#EPTH is a customer optional feature and will be sent as a ship group item.~~
~~**Potencia PDU Rules for affected MTM ordered without a FCed rack:**~~ 1. ~~Potencia PDUs are orderable as either initial or MES on standalone server orders.~~ 2. ~~A FCed rack (eg #0551, #0553, #ER05, #ECR0) is not a pre-requisite for ordering potencia PDUs with servers.~~ 3. ~~For orders that do not contain a FCed rack: If the power cables ordered are not compatible with the PDU receptacles ordered then the following informational warning message will be generated: "The power cables ordered do not match the PDU receptacles of the PDU on the order"~~ ~~The message will be triggered if #6458/#END2, #6671/#END1, or #6672/#END0 are not included with an order that contains #EPTN or #EPTQ,~~ ~~The message will be triggered if #6665/#END5, #4558/#END8 or #ELC5/#END7 is not included with an order that contains #EPTJ or #EPTL.~~ 4. ~~For orders that do not contain a FCed rack, mixing of different PDU types is allowed. This includes mixing of potencia pdus (#EPTJ/ #EPTL/#EPTN/#EPTQ) with the non-potencia pdus (#7188/#7109/#7196) and mixing of C19 pdus with C13 PDUs.~~ 5. ~~If one of affected MTMs is in the same order as a new IBM rack MTM (7014-T00/T42, 7965-94Y/S42) then the PDUs would be ordered with the MTM rack and not as part of the server. The Potencia PDUs (#EPTJ/#EPTL/#EPTN/#EPTQ) would be defaulted on.~~ 6. ~~For orders that do not contain a FCed rack, if Potencia PDUs are ordered as either initial or MES adds to server standalone orders then eConfig will default on the qty of #EPTH equal to the quantity of PDUs ordered. Customers can deselect or reduce qty of #EPTH as desired.~~
~~**Potencia PDU Rules for Affected MTMs with FCed racks**~~: 1. ~~Potencia PDUs are orderable only as an MES.~~ 2. ~~The same server PDU factory integration rules used today on MES orders or upgrades that contain FCed racks will apply to Potencia PDUs.~~ 3. ~~For orders that contain a FCed rack, Mixing of Potencia and non-potencia PDUs is allowed as long as all the PDUs are either all C13 or C19 types of PDUs.~~ 4. ~~If one of affected MTMs is in the same order as a new IBM rack MTM (7014-T00/T42, 7965-94Y/S42) then the PDUs would be ordered with the MTM rack and not as part of the server. The Potencia PDUs (#EPTJ/#EPTL/#EPTN/#EPTQ) would be defaulted on.~~ 5. ~~NewC will assign horizontal mounting hardware as necessary regardless of the existence of #EPTH on factory integrated PDUs.~~

Table A-5: ~~**Rules to allow ordering #7188 and #7109 PDUs on Power 8 servers without ECR0**~~

7965-S42 Rack
~~Note: the following rules were already documented on tactical line item 1H04.~~

Per RTC 1221110, starting on 9/13/16, the following rules adjustments will be made on #7188 PDUs currently orderable on Power 8 servers: (1) change the order type of #7188 PDUs ordered with Power 8 servers (see affected MTMs below) from "MES only" to "both" and (2) drop FCed rack (#ER05/#ECR0) pre-requisite for ordering #7188 and #7109 as part of a Power 8 server. This offering is intended for those customers that want to buy IBM PDUs and use them in their own non IBM rack.

Affected MTMs:

- 8408-E8E (Alpine)
- 9119-MME/MHE (Brazos)
- 9080-MME/MHE (Brazos-Clone)
- 8247-21L/22L/42L (Tuleta)
- 8284-21A/22A (Tuleta)
- 8286-41A/42A (Tuleta)

***Table A-6:* 7188/7109 PDU Rules for Affected MTMs ordered without a FCed rack**

7965-S42 Rack
Note: The #7188/#7109 rules used today for server orders with FCed racks do not change
1. #7188 PDUs are orderable as either initial or MES on server orders. 2. A FCed rack (eg #ECR0) is not a pre-requisite for ordering a #7188 and #7109 PDU with servers. 3. If there is no FCed rack on the order and if the power cables ordered are not compatible with the PDU receptacles ordered then the following informational warning message will be generated: "The power cables ordered do not match the PDU receptacles of the PDU on the order" – The message will be triggered if #6458/#END2, #6671/#END1, or #6672/#END0 are not included with an order that contains #7188 and #7109. 4. If there is no FCed rack on the order, then mixing of different PDU types is allowed. This includes mixing of #7188/#7109 PDUs with potencia PDUs (#EPTJ/#EPTL/#EPTN/#EPTQ) and #7196 PDUs. 5. If one of affected MTMs is in the same order as a new IBM rack MTM (7014-T00/T42, 7965-94Y/S42) then the PDUs would be ordered with the MTM rack and not as part of the server. 6. Each #7188/#7109 PDU ordered requires one of the following PDU linecords: #6489, #6491, #6492, #6653, #6654, #6655, #6656, #6657, #6658, or #6667.