

チェーンレス型多層合意における待ち時間の実験的評価

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キーワード ブロックチェーン, 合意アルゴリズム, スケーラビリティ, 相互運用性, 連合型合意

Experiment evaluation of chain-less-type multi-layer-Consensus in latency-time

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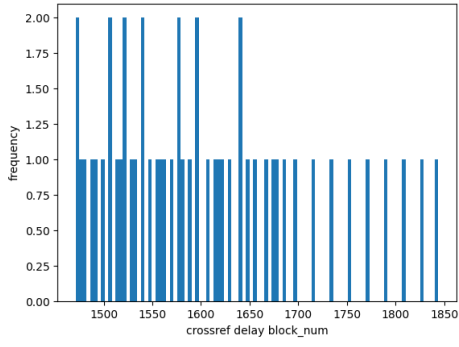
Key words Blockchain, Consensus Algorithm, Scalability, Interoperability, Latency

1. 付録: 実験結果

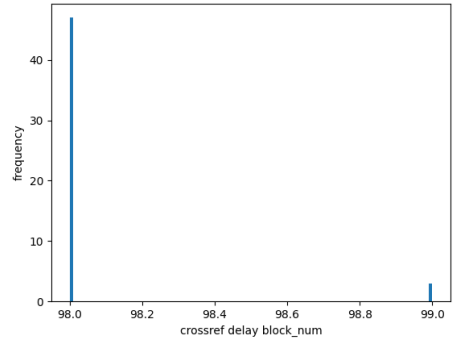
実験結果の大半を以下に示す。紙面の都合上掲載できなかった全ての実験結果のと設定値を以下順に記載していく。

1.1 PC7

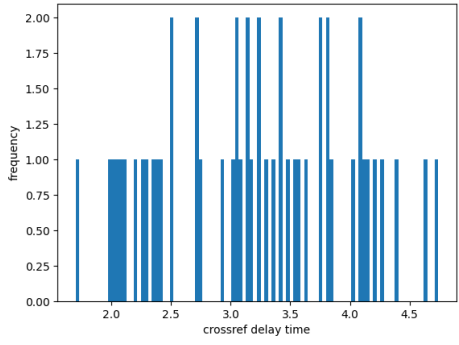
1.2 PC9



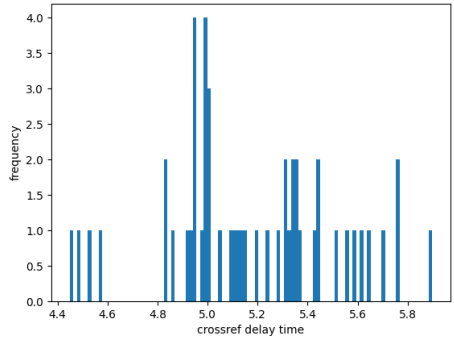
1: 42D PC7ALL DIF1 INT05 histogram-delay blocknum



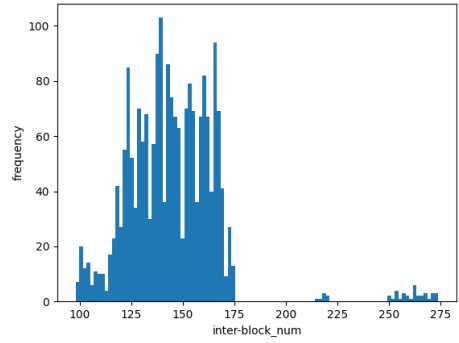
5: 42D PC7 DIF1 INT5 histogram-delay blocknum



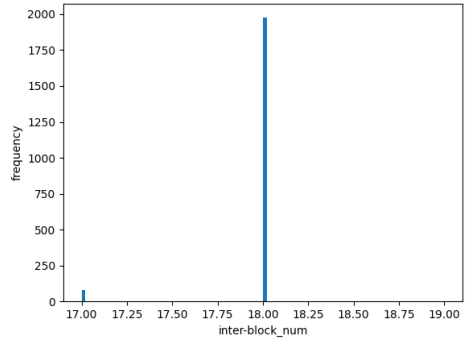
2: 42D PC7ALL DIF1 INT05 histogram-delay time



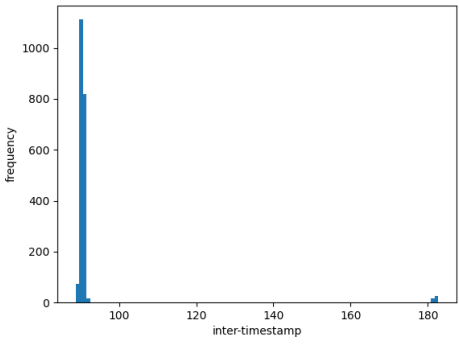
6: 42D PC7 DIF1 INT5 histogram-delay time



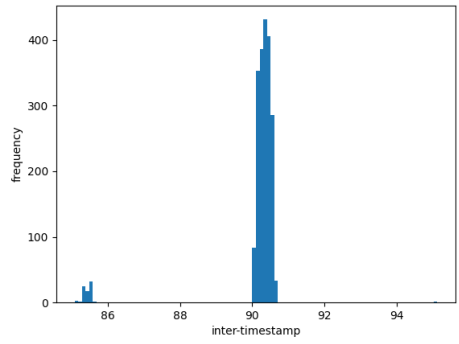
3: 42D PC7ALL DIF1 INT05 histogram-inter blocknum



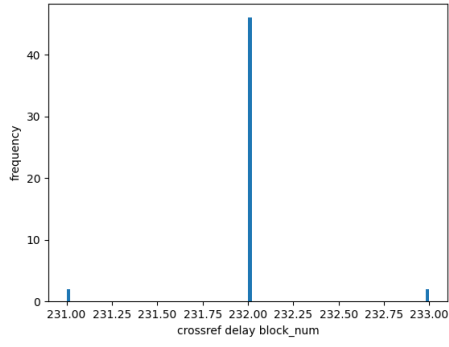
7: 42D PC7 DIF1 INT5 histogram-inter blocknum



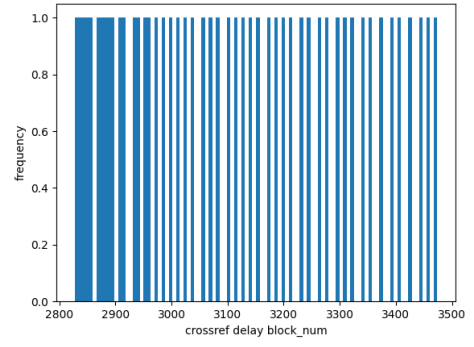
4: 42D PC7ALL DIF1 INT05 histogram-inter timestamp



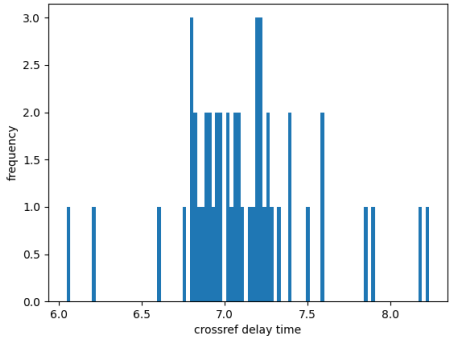
8: 42D PC7 DIF1 INT5 histogram-inter timestamp



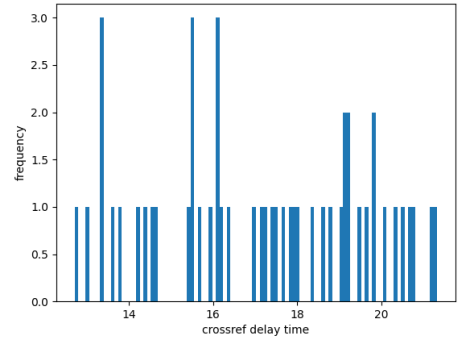
9: 70D PC7ALL DIF1 INT5 histogram-delay blocknum



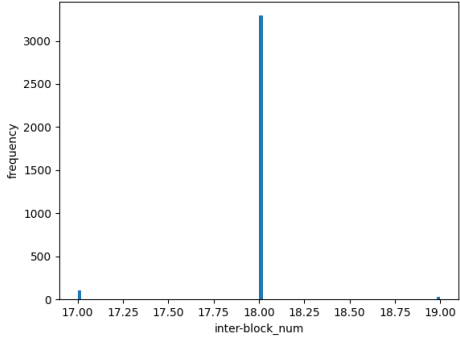
13: 126D PC7ALL DIF1 INT05 histogram-delay blocknum



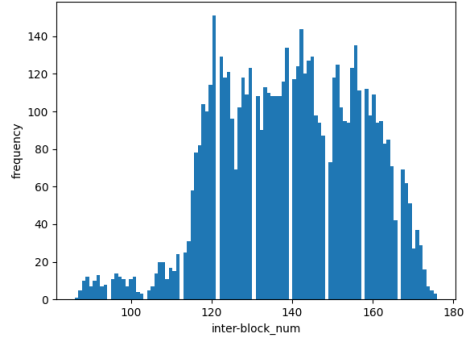
10: 70D PC7ALL DIF1 INT5 histogram-delay time



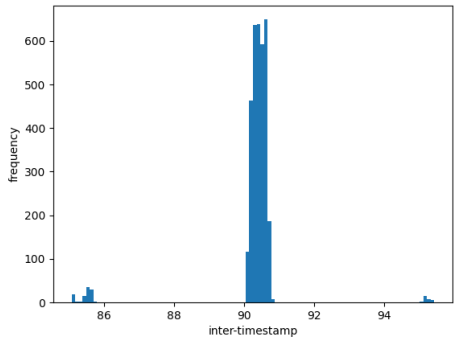
14: 126D PC7ALL DIF1 INT05 histogram-delay time



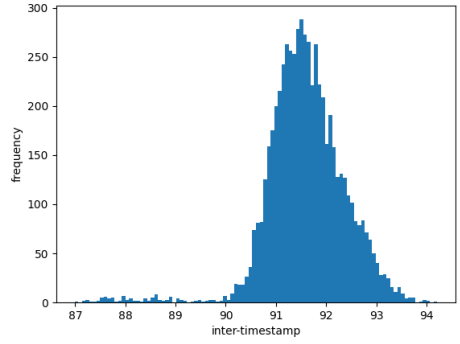
11: 70D PC7ALL DIF1 INT5 histogram-inter blocknum



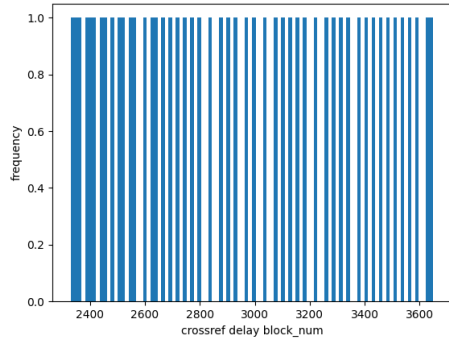
15: 126D PC7ALL DIF1 INT05 histogram-inter blocknum



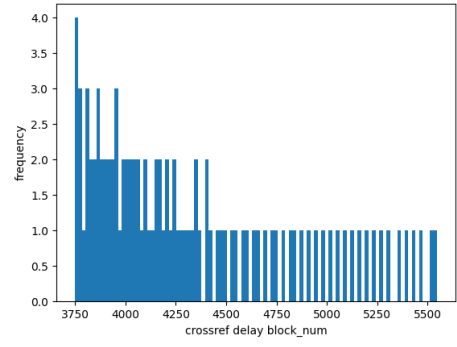
12: 70D PC7ALL DIF1 INT5 histogram-inter timestamp



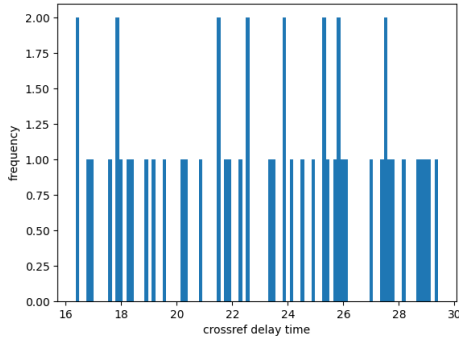
16: 126D PC7ALL DIF1 INT05 histogram-inter timestamp



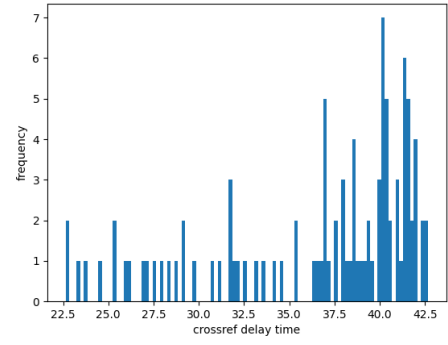
17: 154D PC7ALL DIF1 INT05 histogram-delay blocknum



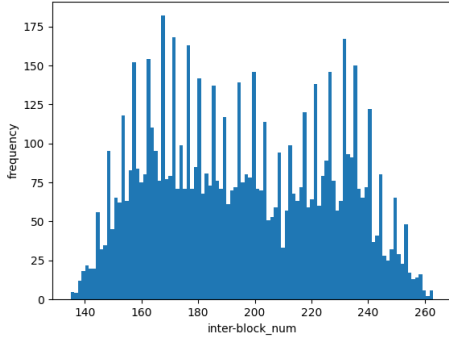
21: 182D PC7ALL DIF1 INT05 histogram-inter timestamp



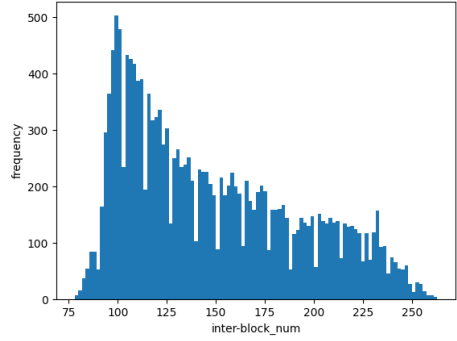
18: 154D PC7ALL DIF1 INT05 histogram-delay time



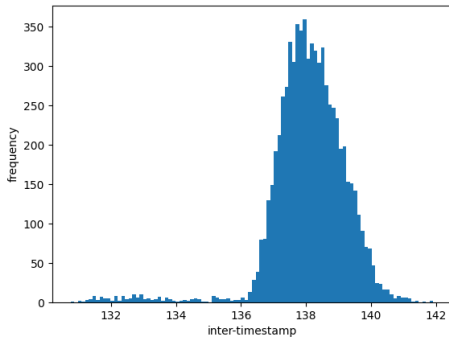
22: 182D PC7ALL DIF1 INT05 histogram-inter timestamp



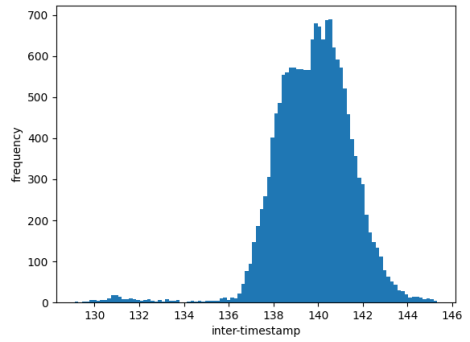
19: 154D PC7ALL DIF1 INT05 histogram-inter blocknum



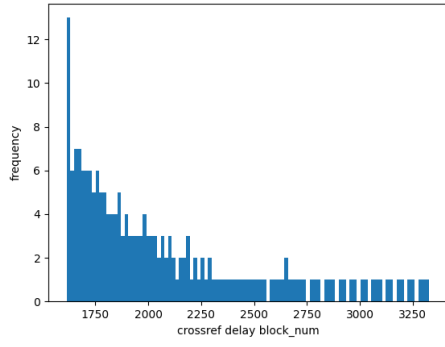
23: 182D PC7ALL DIF1 INT05 histogram-inter timestamp



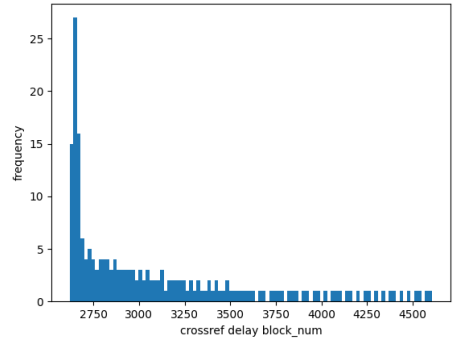
20: 154D PC7ALL DIF1 INT05 histogram-inter timestamp



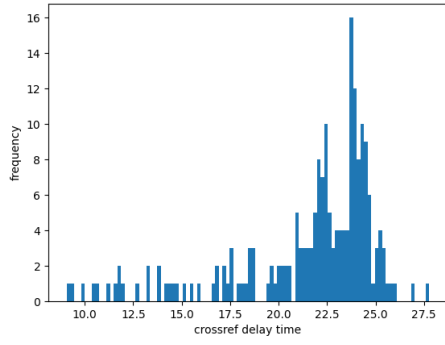
24: 182D PC7ALL DIF1 INT05 histogram-inter timestamp



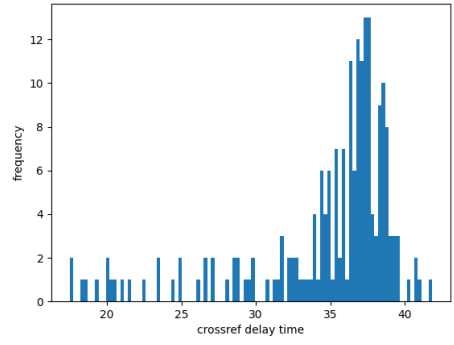
☒ **25:** 99D PC9ALL DIF1 INT05 histogram-inter timestamp



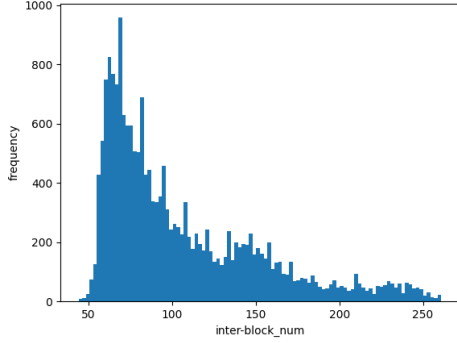
☒ **29:** 135D PC9ALL DIF1 INT05 histogram-inter timestamp



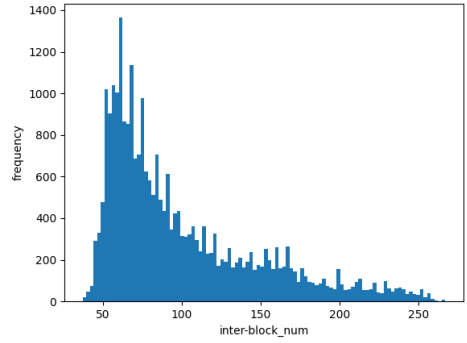
☒ **26:** 99D PC9ALL DIF1 INT05 histogram-inter timestamp



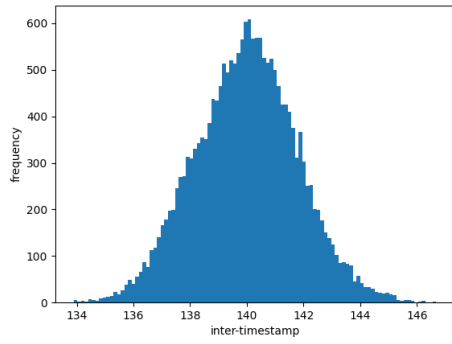
☒ **30:** 135D PC9ALL DIF1 INT05 histogram-inter timestamp



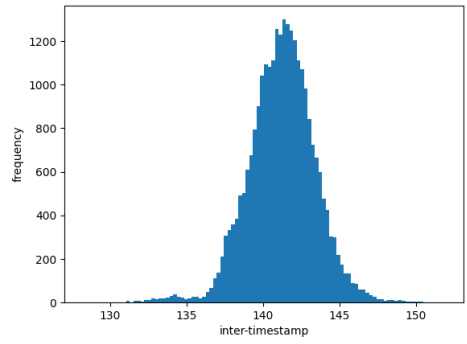
☒ **27:** 99D PC9ALL DIF1 INT05 histogram-inter timestamp



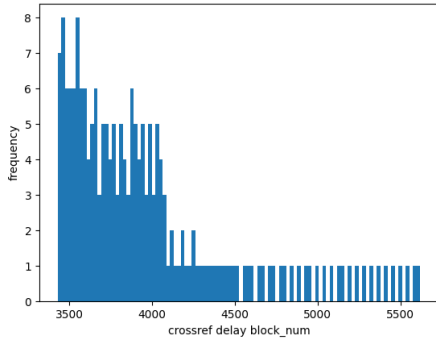
☒ **31:** 135D PC9ALL DIF1 INT05 histogram-inter timestamp



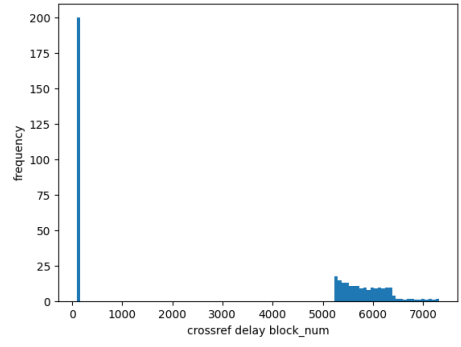
☒ **28:** 99D PC9ALL DIF1 INT05 histogram-inter timestamp



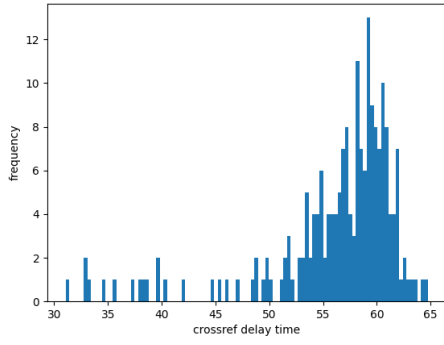
☒ **32:** 135D PC9ALL DIF1 INT05 histogram-inter timestamp



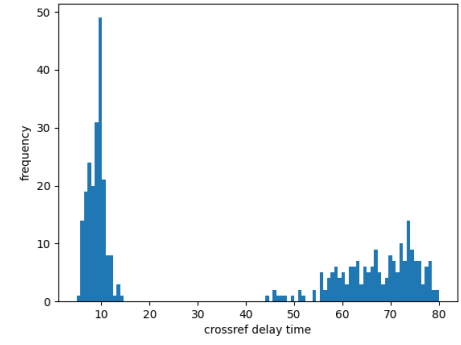
33: 180D PC9ALL DIF1 INT05 histogram-inter timestamp



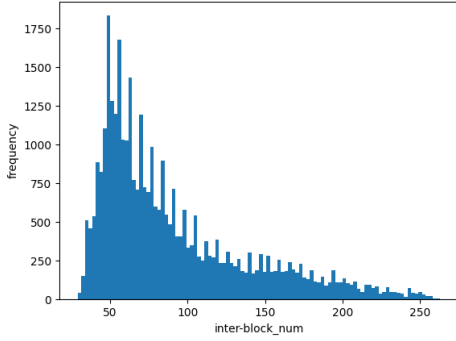
37: 216D PC9ALL DIF1 INT05 histogram-inter timestamp



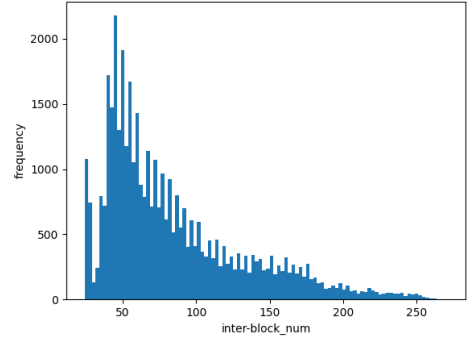
34: 180D PC9ALL DIF1 INT05 histogram-inter timestamp



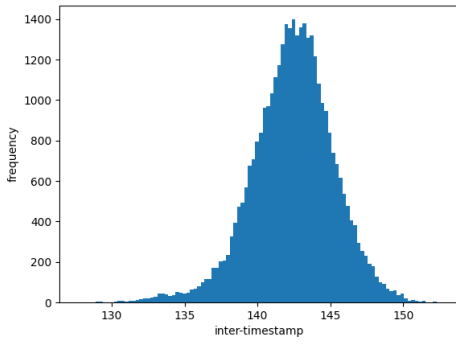
38: 216D PC9ALL DIF1 INT05 histogram-inter timestamp



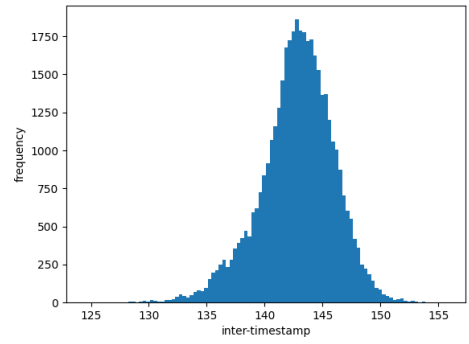
35: 180D PC9ALL DIF1 INT05 histogram-inter timestamp



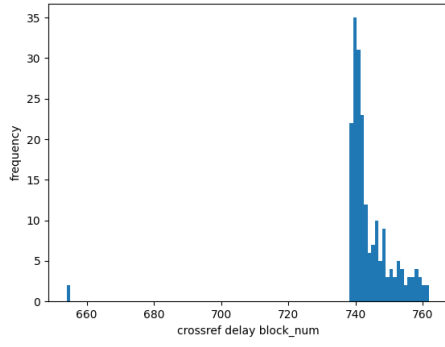
39: 216D PC9ALL DIF1 INT05 histogram-inter timestamp



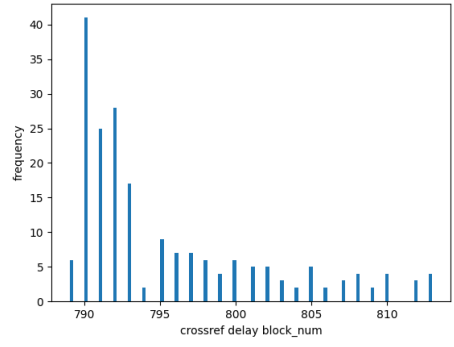
36: 180D PC9ALL DIF1 INT05 histogram-inter timestamp



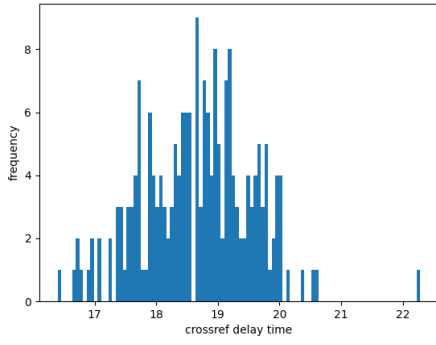
40: 216D PC9ALL DIF1 INT05 histogram-inter timestamp



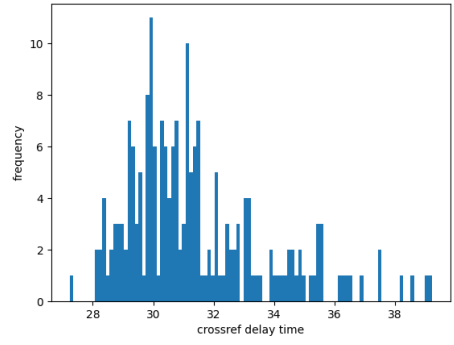
41: 180D PC9 DIF1 INT5 histogram-inter timestamp



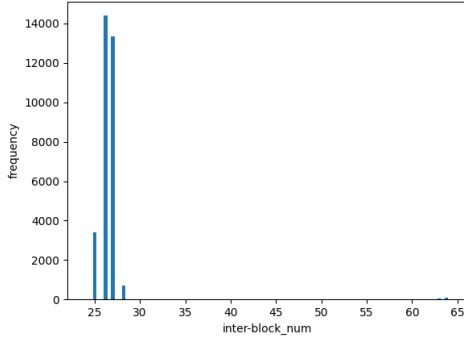
45: 218D PC9 DIF1 INT5 histogram-inter timestamp



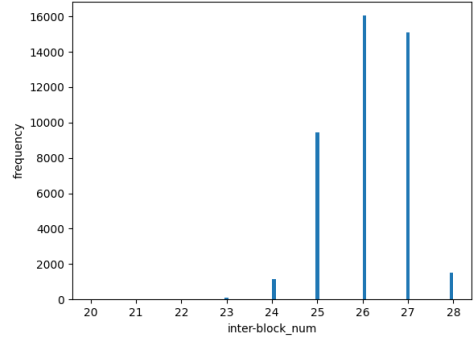
42: 180D PC9 DIF1 INT5 histogram-inter timestamp



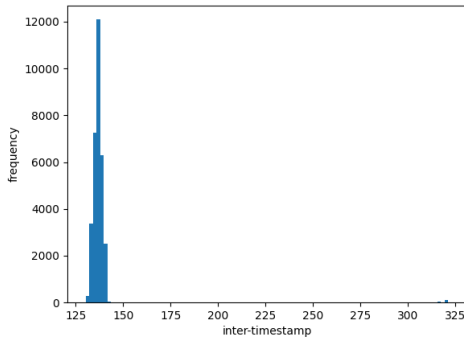
46: 218D PC9 DIF1 INT5 histogram-inter timestamp



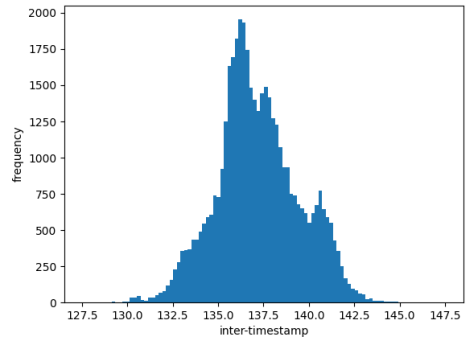
43: 180D PC9 DIF1 INT5 histogram-inter timestamp



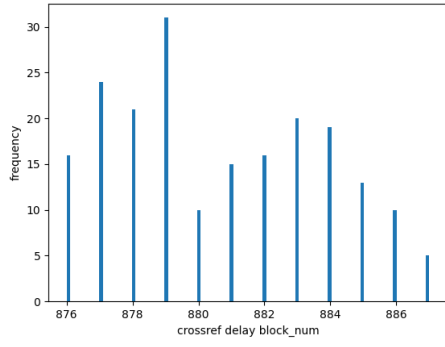
47: 218D PC9 DIF1 INT5 histogram-inter timestamp



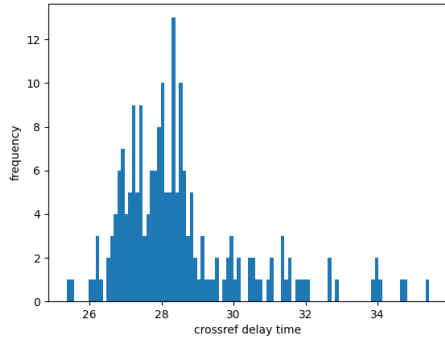
44: 180D PC9 DIF1 INT5 histogram-inter timestamp



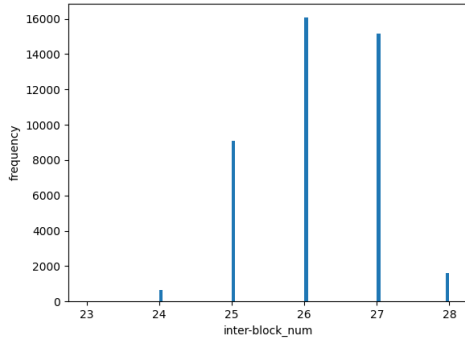
48: 218D PC9 DIF1 INT5 histogram-inter timestamp



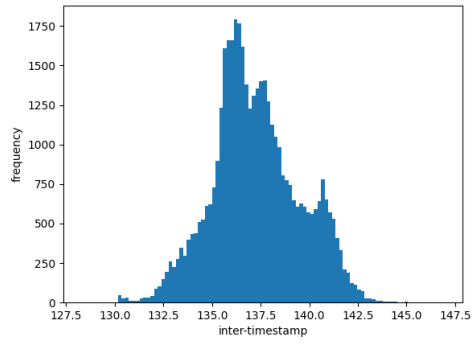
49: 218D PC9 DIF1 INT5 histogram-inter timestamp



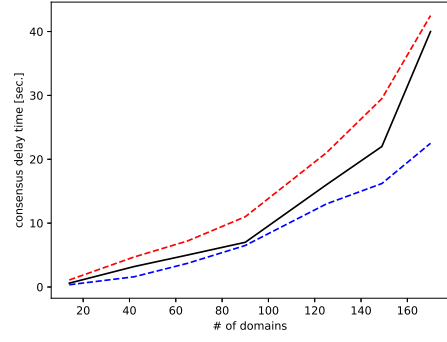
50: 218D PC9 DIF1 INT5 histogram-inter timestamp



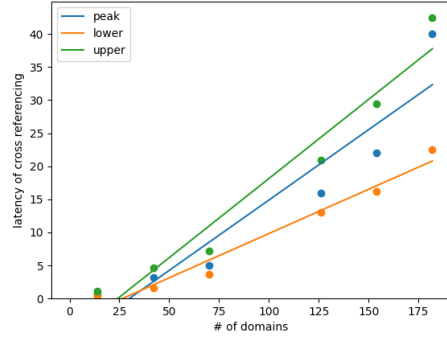
51: 218D PC9 DIF1 INT5 histogram-inter timestamp



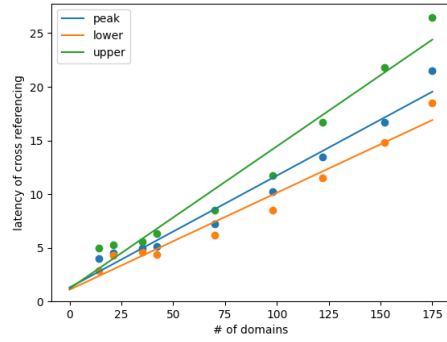
52: 218D PC9 DIF1 INT5 histogram-inter timestamp



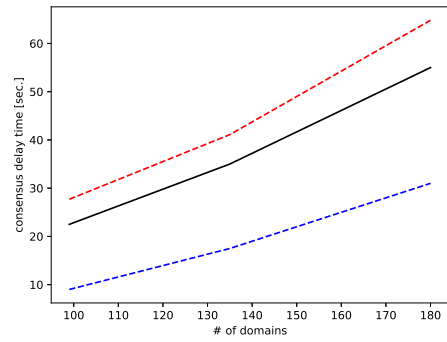
53: consensus delay time tendency PC7ALL INT05



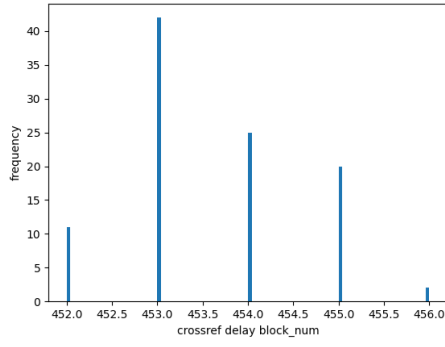
54: consensus delay time tendency PC7ALL INT5



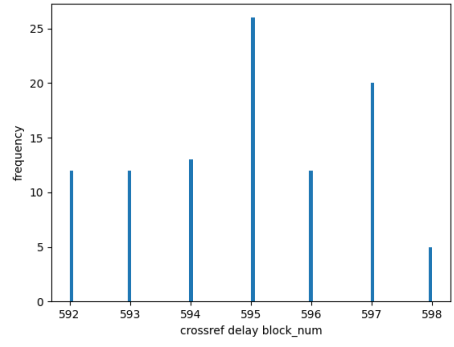
55: consensus delay time tendency PC7ALL INT5



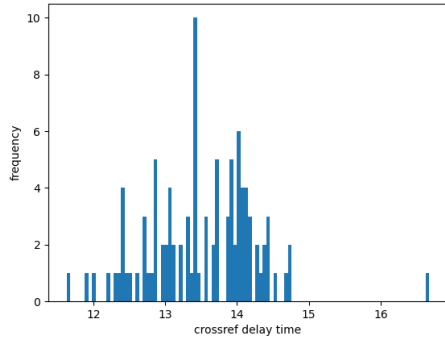
56: consensus delay time tendency PC9 INT05



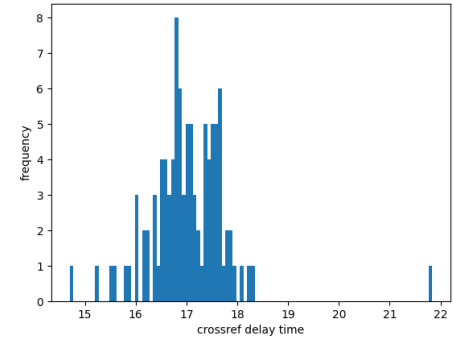
57: 126D PC7ALL DIF1 INT5 histogram-delay blocknum



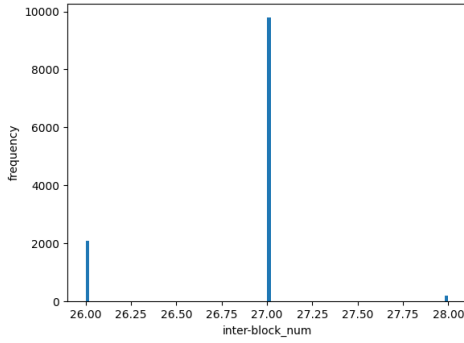
61: 154D PC7ALL DIF1 INT5 histogram-delay blocknum



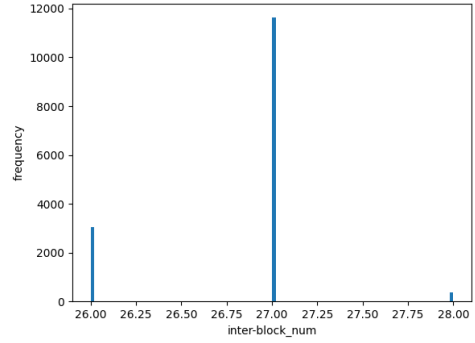
58: 126D PC7ALL DIF1 INT5 histogram-inter timestamp



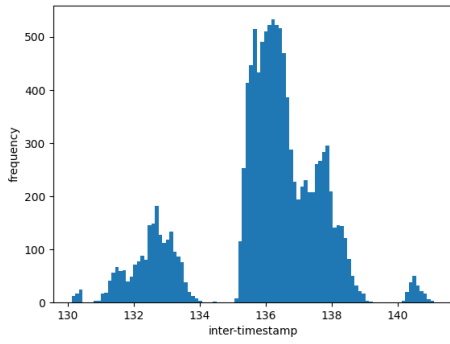
62: 154D PC7ALL DIF1 INT5 histogram-inter timestamp



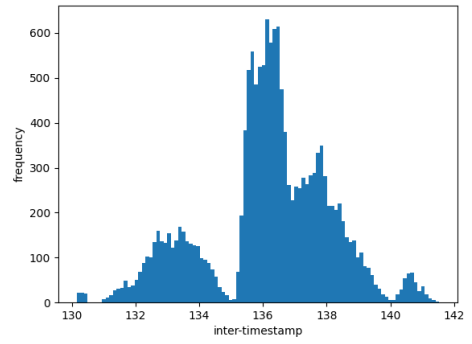
59: 126D PC7ALL DIF1 INT5 histogram-inter timestamp



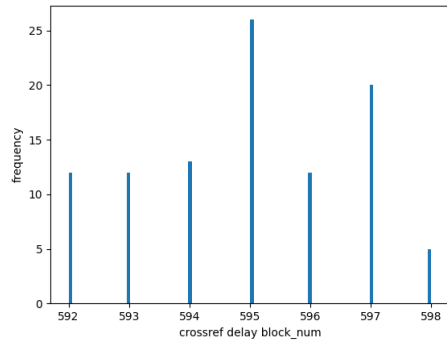
63: 154D PC7ALL DIF1 INT5 histogram-inter timestamp



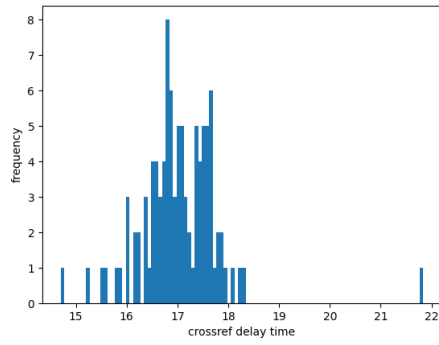
60: 126D PC7ALL DIF1 INT5 histogram-inter timestamp



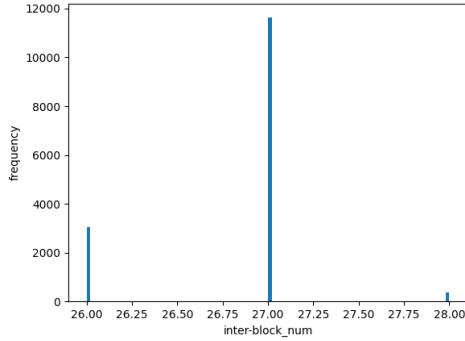
64: 154D PC7ALL DIF1 INT5 histogram-inter timestamp



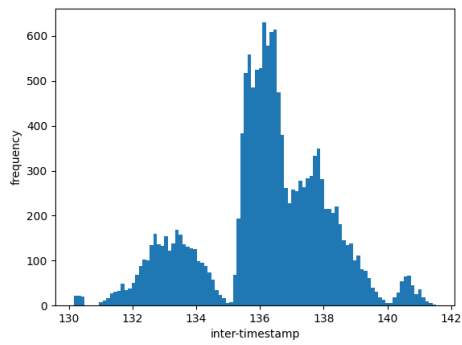
☒ **65:** 154D PC7ALL DIF1 INT5 histogram-delay blocknum



☒ **66:** 154D PC7ALL DIF1 INT5 histogram-inter timestamp



☒ **67:** 154D PC7ALL DIF1 INT5 histogram-inter timestamp



☒ **68:** 154D PC7ALL DIF1 INT5 histogram-inter timestamp