Kontour

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Arif Khan – Principal Technical Lead

Manik Sidana - Core Contributor

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Identified KPIs in below areas

› Identified KPIs in different areas.

   › Compute

   › API

   › Storage

   › Network

   › Security

   › …

› Add more areas and KPIs iteratively.

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Kontour - Current State

› Published a first set to KPIs along with the obtained values

› https://wiki.akraino.org/display/AK/KPI+Results

› Engaging with customers and other partners to widen the community reach.

S.No	KPI Name	Category	Description	Measurement Unit
1	KT_KPI_NET_JITTER	Network	Measure of jitter between two workloads	milliseconds
2	KT_KPI_NET_TCP_BW	Network	Network TCP Bandwidth between two workloads	Gbps
3	KT_KPI_NET_PING_LAT	Network	Ping Lateny between two workloads	milliseconds
4	KT_KPI_NET_UDP_LAT	Network	UDP Lateny between two workloads	milliseconds
5	KT_KPI_NET_UDP_THPUT	Network	UDP throughput between two workloads	Gbps
6	KT_KPI_NET_UDP_PKT_LOSS	Network	Packet loss between two workloads	Packets lost per million packets
7	KT_KPI_COMP_CPU_SCORE	Compute	CPU Performance as per index score	CPU Index Score
8	KT_KPI_COMP_IPS	Compute	Measure CPU performance as instructions per seconds	Instructions per second
9	KT_KPI_COMP_MEM_LAT	Compute	Maximum Memory latency of a workload	nanoseconds
10	KT_KPI_COMP_MEM_BW	Compute	Memory bandwidth of a workload	Mibyte/sec
11	KT_KPI_STG_SEQ_RW_LATENCY	Storage	Read Write latency in the workload for sequential readwrite operation in 70:30 ratio.	microseconds
12	KT_KPI_STG_SEQ_READ_ONLY_IOPS	Storage	Storage IOPS of a workload for sequential read-only operation	Input/Output Operations Per Second
13	KT_KPI_STG_SEQ_WRITE_ONLY_IOPS	Storage	Storage IOPS of a workload for sequential write-only operation	Input/Output Operations Per Second
14	KT_KPI_STG_RAND_RW_LATENCY	Storage	Read Write latency in the workload for random readwrite operation in 70:30 ratio.	microseconds
15	KT_KPI_STG_RAND_READ_ONLY_IOPS	Storage	Storage IOPS of a workload for random read-only operation	Input/Output Operations Per Second
16	KT_KPI_STG_RAND_WRITE_ONLY_IOPS	Storage	Storage IOPS of a workload for random write-only operation	Input/Output Operations Per Second
17	KT_KPI_K8S_API_JOB_CREATE_READ_DELETE	API	Kubernetes API performance for job creation, read and delete	Success Rate %
18	KT_KPI_K8S_API_POD_CREATE_DELETE	API	Kubernetes API performance for pod creation and delete	Success Rate %
19	KT_KPI_K8S_API_NS_CREATE_DELETE	API	Kubernetes API performance for namespace creation and delete	Success Rate %
20	KT_KPI_K8S_API_REPCONT_CREATE_SCALE_DELETE	API	Kubernetes API performance for replication controller creation, scale and delete	Success Rate %

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21	KT_KPI_K8S_API_REPSET_CREATE_SCALE_DELETE	API	Kubernetes API performance for replica set creation, scale and delete	Success Rate %
22	KT_KPI_K8S_API_STATEFULSET_CREATE_SCALE_DELETE	API	Kubernetes API performance for statefulset creation, scale and delete	Success Rate %
23	KT_KPI_K8S_API_DEP_CREATE_READ_DELETE	API	Kubernetes API performance for deployment creation, read and delete	Success Rate %
24	KT_KPI_K8S_API_NODEPORT_CREATE_CHECK_DELETE	API	Kubernetes API performance for nodeport creation, check and delete	Success Rate %
25	KT_KPI_K8S_SEC_CIS_COMPLIANCE	API	Kubernetes security score measured via CIS benchmark	Security Score
26	KT_KPI_K8S_CONF_E2E_SIG_AUTH	API	Kubernetes conformance for sig-auth	Compliance %age
27	KT_KPI_K8S_CONF_E2E_SIG_STORAGE	API	Kubernetes conformance for sig-storage	Compliance %age
28	KT_KPI_K8S_CONF_E2E_SIG_INSTRUMENTATION	API	Kubernetes conformance for sig-instrumentation	Compliance %age
29	KT_KPI_K8S_CONF_E2E_SIG_APPS	API	Kubernetes conformance for sig-apps	Compliance %age
30	KT_KPI_K8S_CONF_E2E_SIG_CONFORMANCE	API	Kubernetes conformance for Conformance	Compliance %age
31	KT_KPI_K8S_CONF_E2E_SIG_NODE_CONFORMANCE	API	Kubernetes conformance for NodeConformance	Compliance %age
32	KT_KPI_K8S_CONF_E2E_SIG_API_MACHINERY	API	Kubernetes conformance for sig-api-machinery	Compliance %age
33	KT_KPI_K8S_CONF_E2E_SIG_NETWORK	API	Kubernetes conformance for sig-networrk	Compliance %age
34	KT_KPI_K8S_CONF_E2E_SIG_CLI	API	Kubernetes conformance for sig-cli	Compliance %age
35	KT_KPI_K8S_CONF_E2E_SIG_SCHEDULING	API	Kubernetes conformance for sig-scheduling	Compliance %age
36	KT_KPI_SVC_NGINX_MAX_LATENCY	Service	Maximum latency in NGINX in serving requests	milliseconds
37	KT_KPI_SVC_REDIS_MAX_THPUT_1MS	Service	Redis Server Max Throughput for Latency Under 1ms	requests/sec
38	KT_KPI_SVC_MONGO_THPUT	Service	Mongo throughput for database operations per second	operations/sec
39	KT_KPI_K8S_NODE_HEALTH	Service	Check health of K8S nodes to be in ready state	Nodes in Ready state
40	KT_KPI_K8S_SYS_NS_HEALTH	Health	Check health of all pods in kube-system namespace	All pods in running state
41	KT_KPI_OS_API_NOVA_CRUD	API	OpenStack Nova API CRUD performance	Success Rate %
42	KT_KPI_OS_API_NEUTRON_CRUD	API	OpenStack Neutron API CRUD performance	Success Rate %
43	KT_KPI_OS_API_GLANCE_CRUD	API	OpenStack Glance API CRUD performance	Success Rate %
44	KT_KPI_OS_API_CINDER_CRUD	API	OpenStack Cinder API CRUD performance	Success Rate %
45	KT_KPI_OPENSTACK_REFSTACK	API	OpenStack API compliance based on RefStack guidelines	Compliance %age
46	KT_KPI_OS_API_TEMPEST_NOVA	API	OpenStack Nova API functional verification	Compliance %age
47	KT_KPI_OS_API_TEMPEST_NEUTRON	API	OpenStack Neutron API functional verification	Compliance %age
48	KT_KPI_OS_API_TEMPEST_GLANCE	API	OpenStack Glance API functional verification	Compliance %age
49	KT_KPI_OS_API_TEMPEST_CINDER	API	OpenStack Cinder API functional verification	Compliance %age

Roadmap

› Create/Identify new KPI categories for different edge use cases like Blockchain, AI/VR, O-RAN etc.

› Add more KPIs.

› Publish results from different labs

Questions

› Arif Khan: arif29march@gmail.com

› Manik Sidana: manik@voereir.com

Thanks