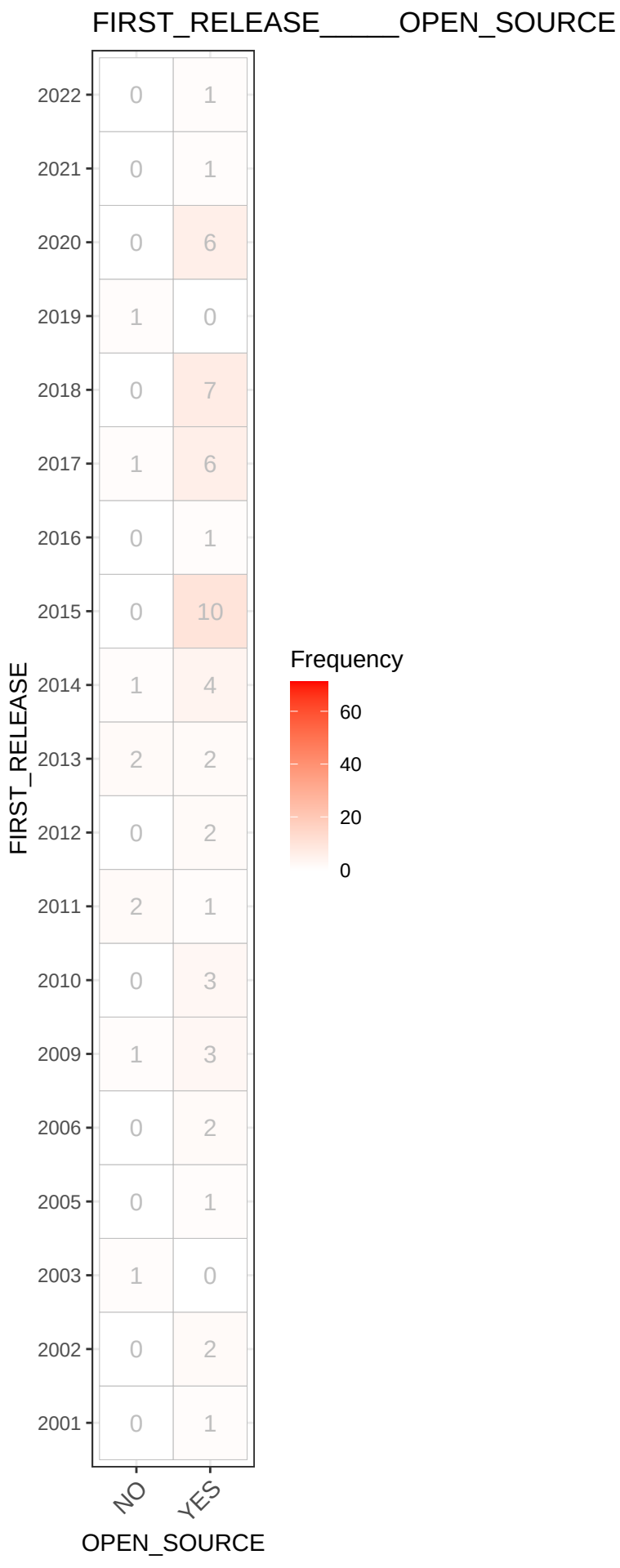
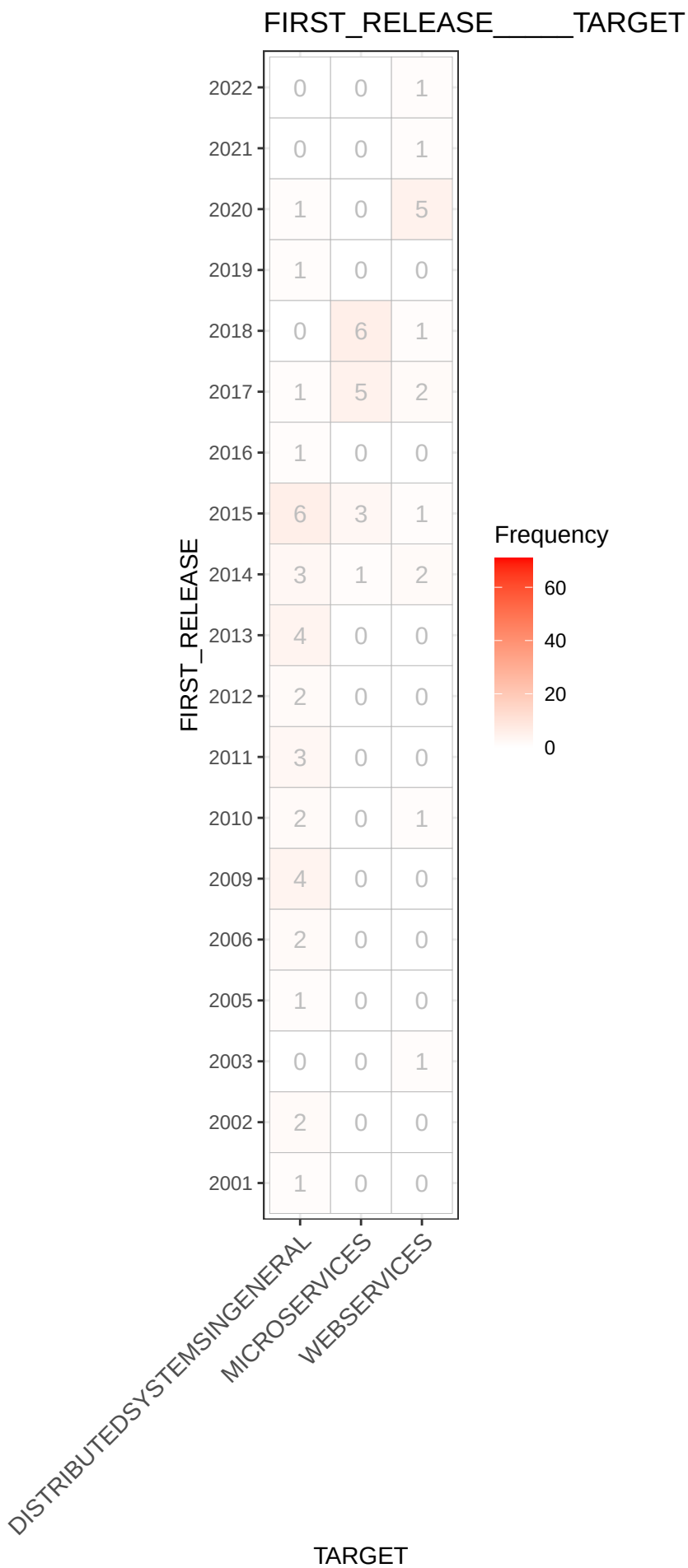
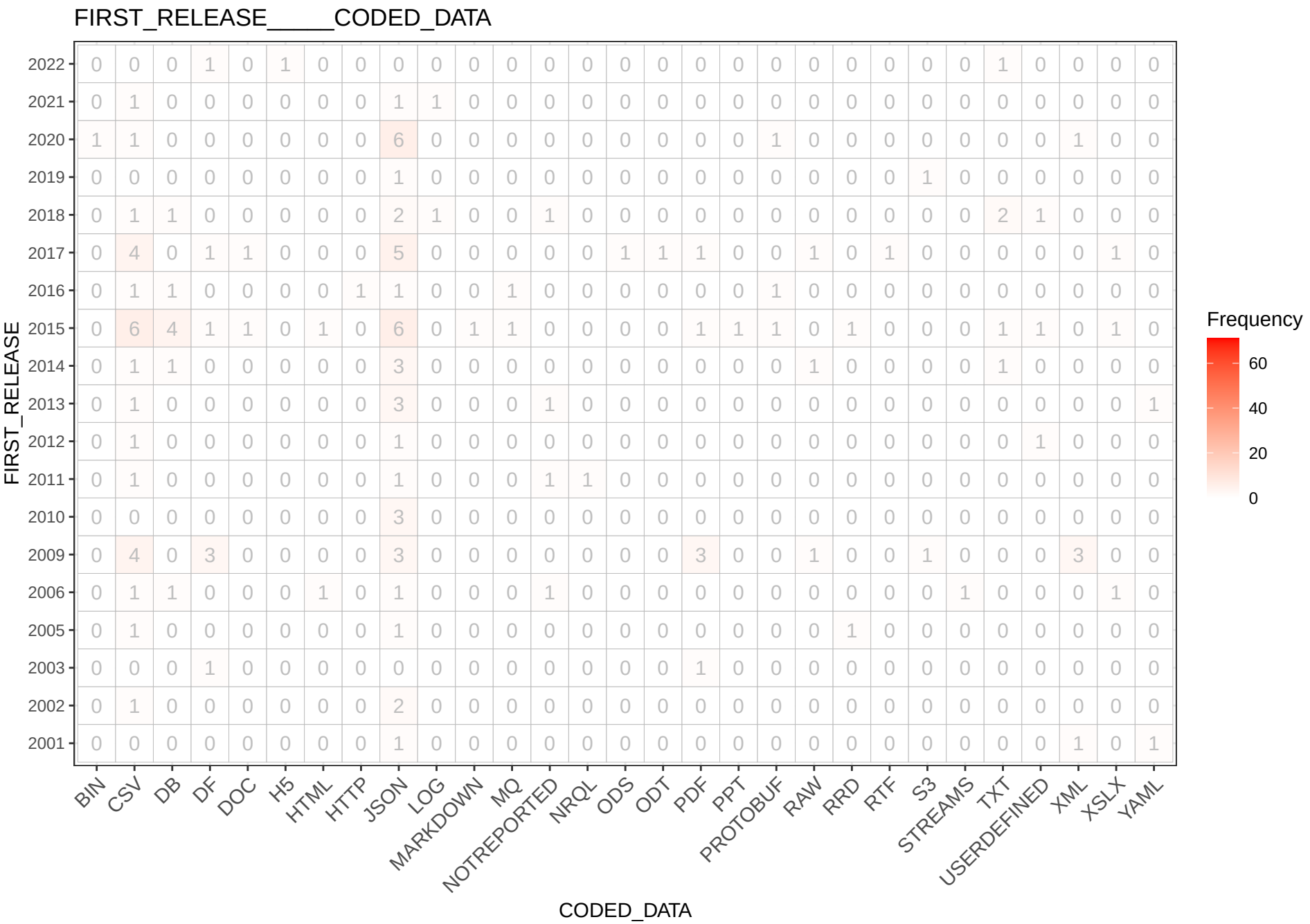
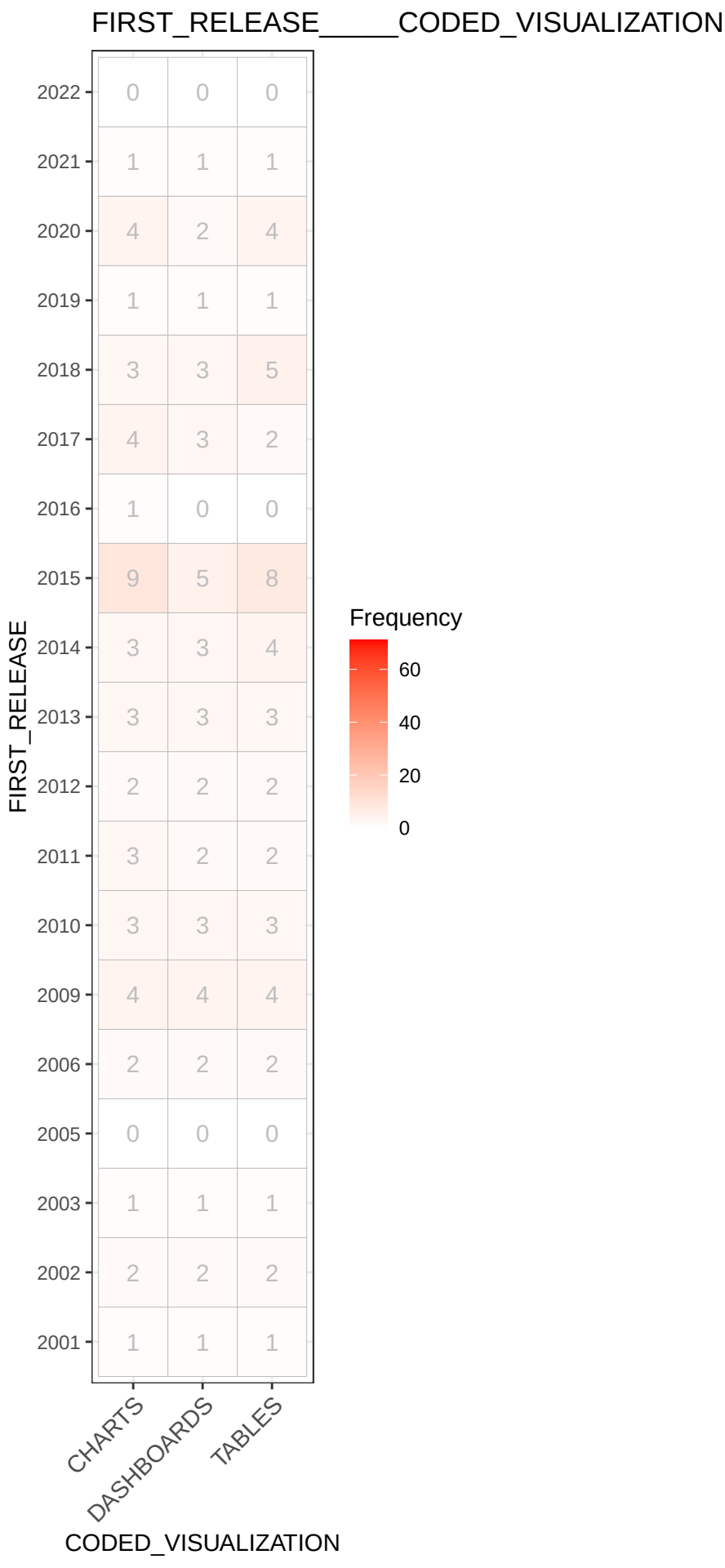
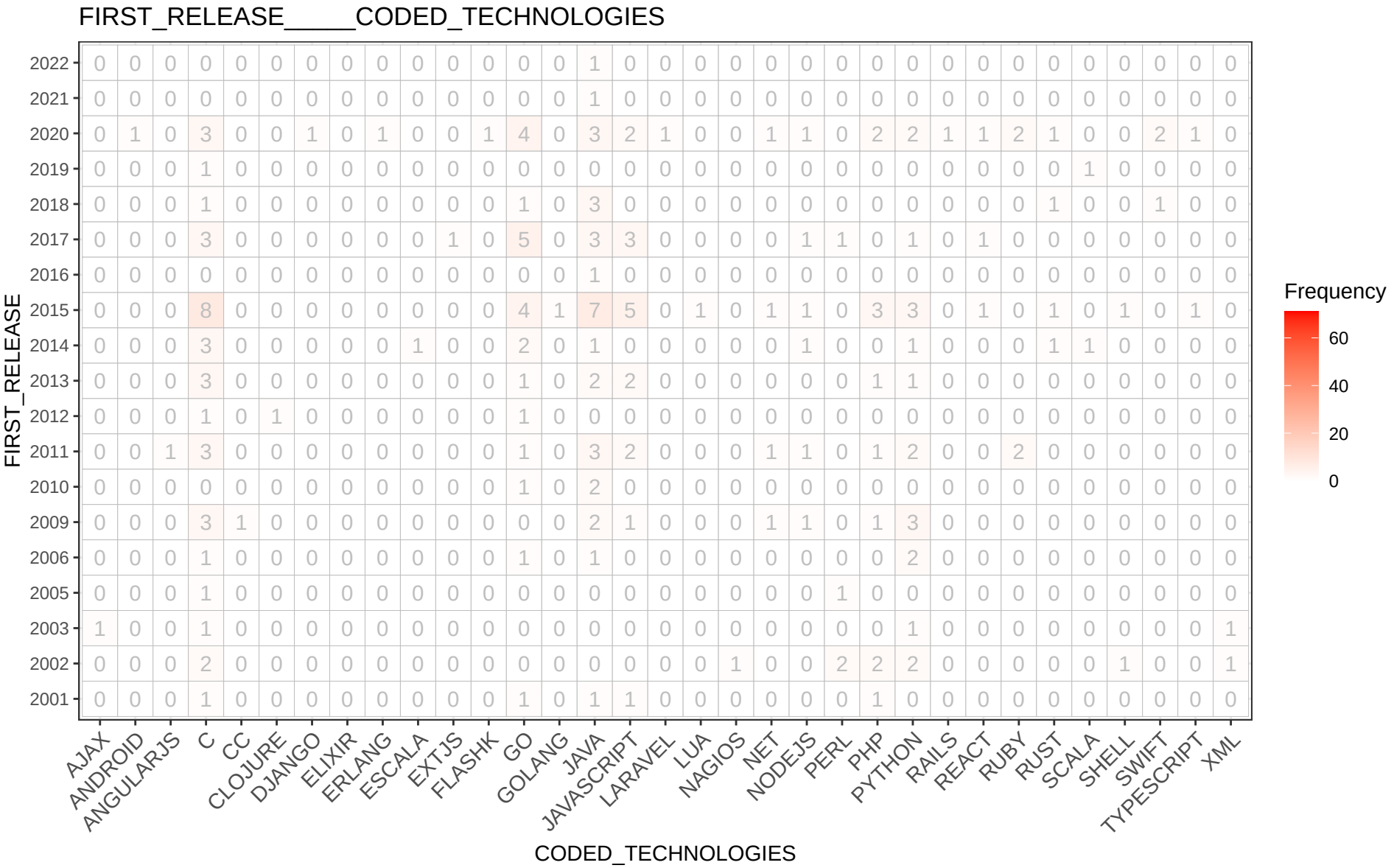
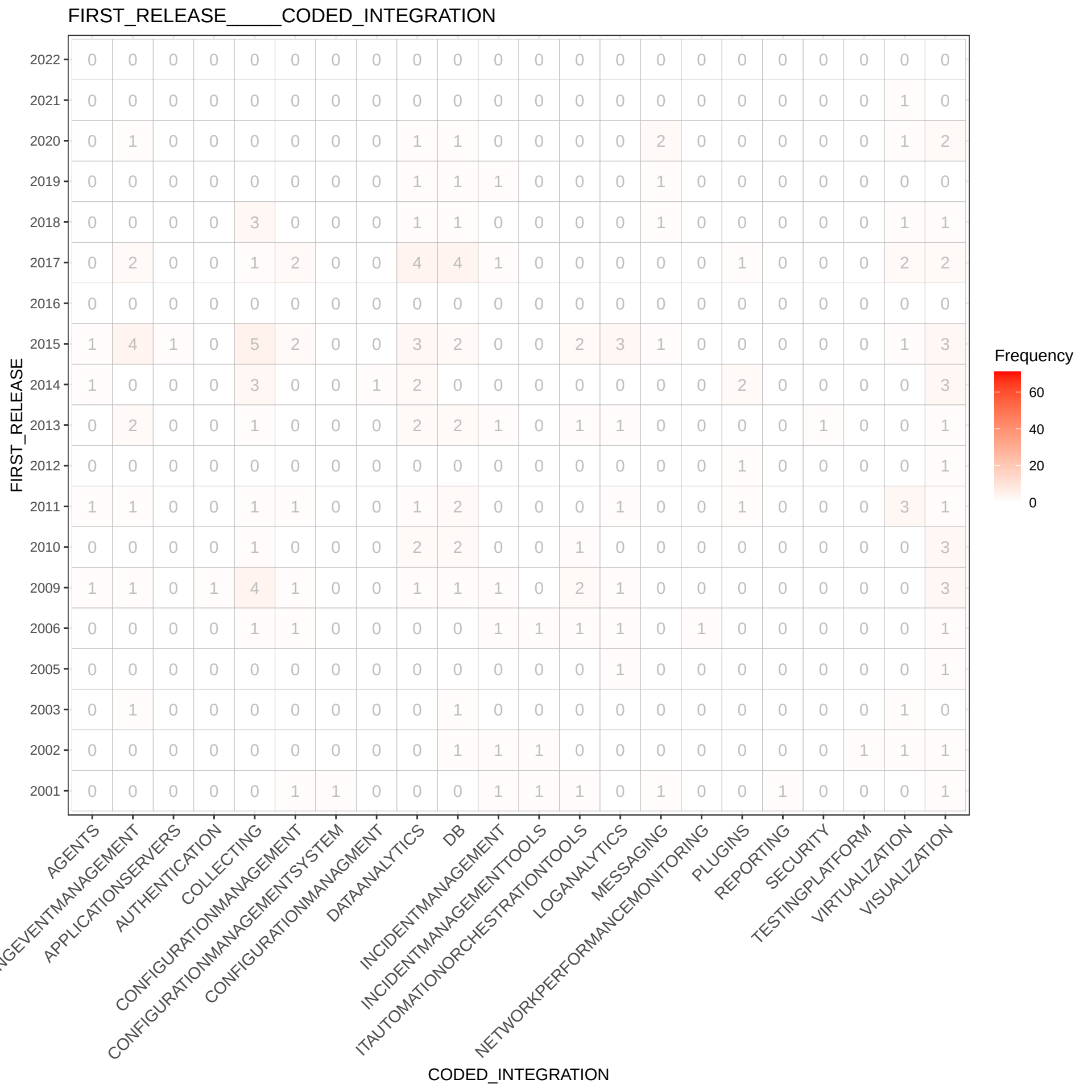

FIRST_RELEASE_____OPEN_SOURCE
FIRST_RELEASE
2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2006
2005
2003
2002
2001
0 1
0 1
0 6
1 0
0 7
1 6
0 1
0 10
1 4
2 2
0 2
2 1
0 3
1 3
0 2
0 1
1 0
0 2
0 1
NO
YES
OPEN_SOURCE
Frequency
60
40
20
0

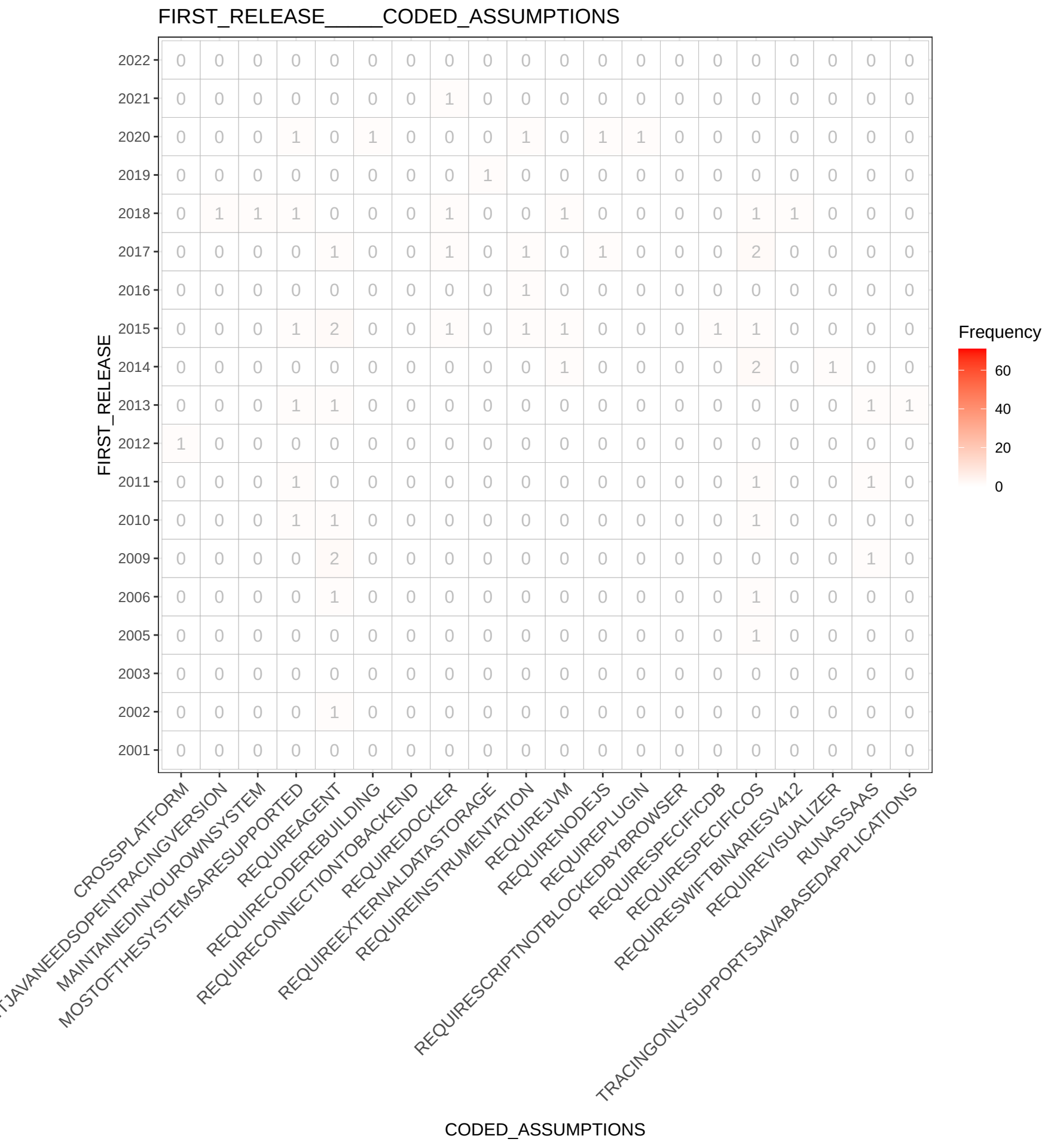

FIRST_RELEASE_____TARGET
FIRST_RELEASE
2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2006
2005
2003
2002
2001
0 0 1
0 0 1
1 0 5
1 0 0
0 6 1
1 5 2
1 0 0
6 3 1
3 1 2
4 0 0
2 0 0
3 0 0
2 0 1
4 0 0
2 0 0
1 0 0
0 0 1
2 0 0
1 0 0
DISTRIBUTEDSYSTEMSINGENERAL
MICROSERVICES
WEBSERVICES
TARGET
Frequency
60
40
20
0

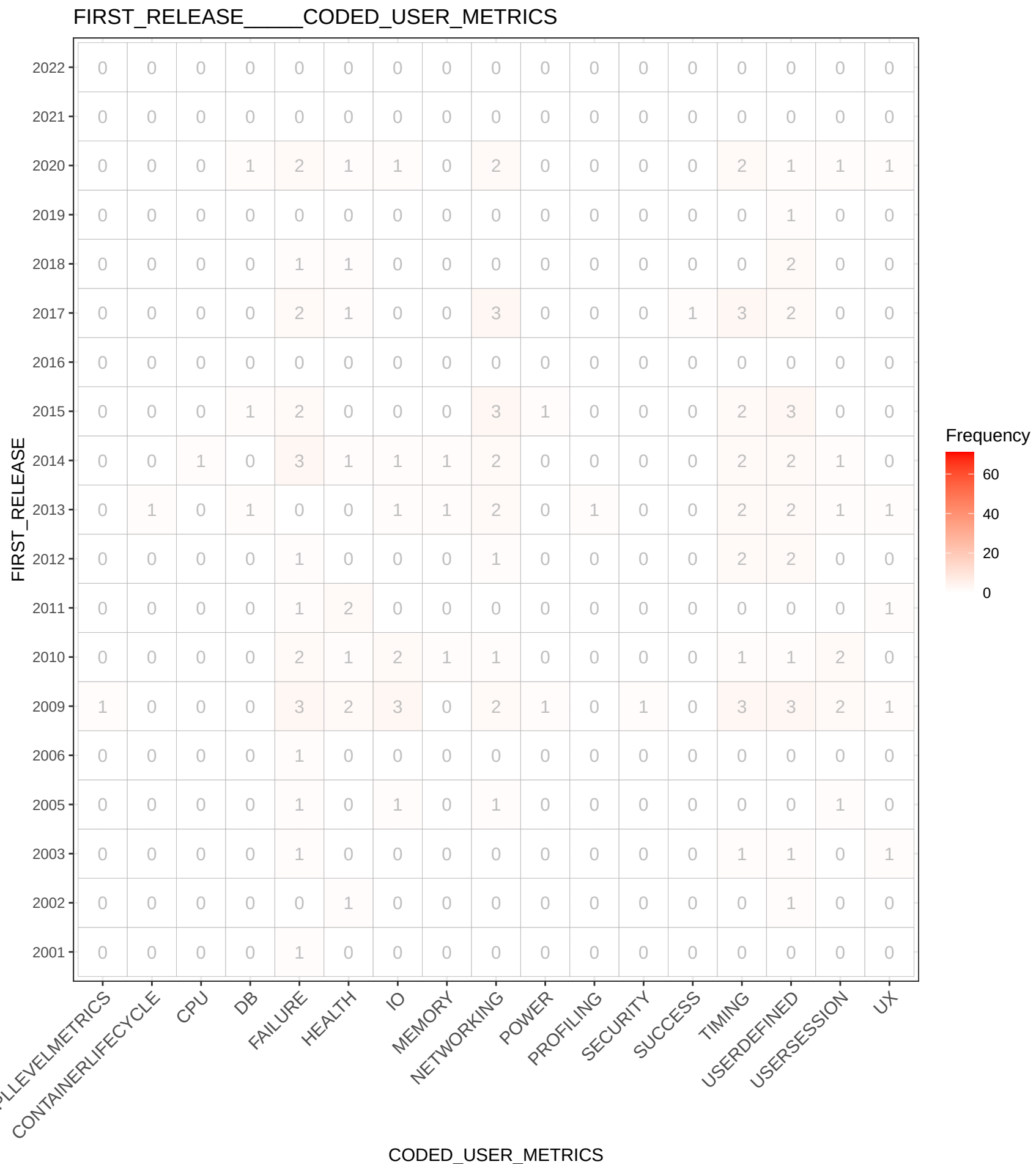

FIRST_RELEASE_____CODED_DATA
FIRST_RELEASE
2022 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2021 0 1 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2020 1 1 0 0 0 0 0 0 6 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0
2019 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0
2018 0 1 1 0 0 0 0 0 2 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 2 1 0 0 0
2017 0 4 0 1 1 0 0 0 5 0 0 0 0 0 1 1 1 0 0 1 0 1 0 0 0 0 0 1 0
2016 0 1 1 0 0 0 0 1 1 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
2015 0 6 4 1 1 0 1 0 6 0 1 1 0 0 0 0 1 1 1 0 1 0 0 0 1 1 0 1 0
2014 0 1 1 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0
2013 0 1 0 0 0 0 0 0 3 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
2012 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2011 0 1 0 0 0 0 0 0 1 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2010 0 0 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2009 0 4 0 3 0 0 0 0 3 0 0 0 0 0 0 0 0 3 0 0 1 0 0 1 0 0 0 3 0 0
2006 0 1 1 0 0 0 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0
2005 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
2003 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
2002 0 1 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2001 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1
BIN CSV DB DF DOC H5 HTML HTTP JSON LOG MARKDOWN MQ NOTREPORTED NRQL ODS ODT PDF PPT PROTOBUF RAW RRD RTF S3 STREAMS TXT USERDEFINED XML XSLX YAML
CODED_DATA
Frequency
60
40
20
0

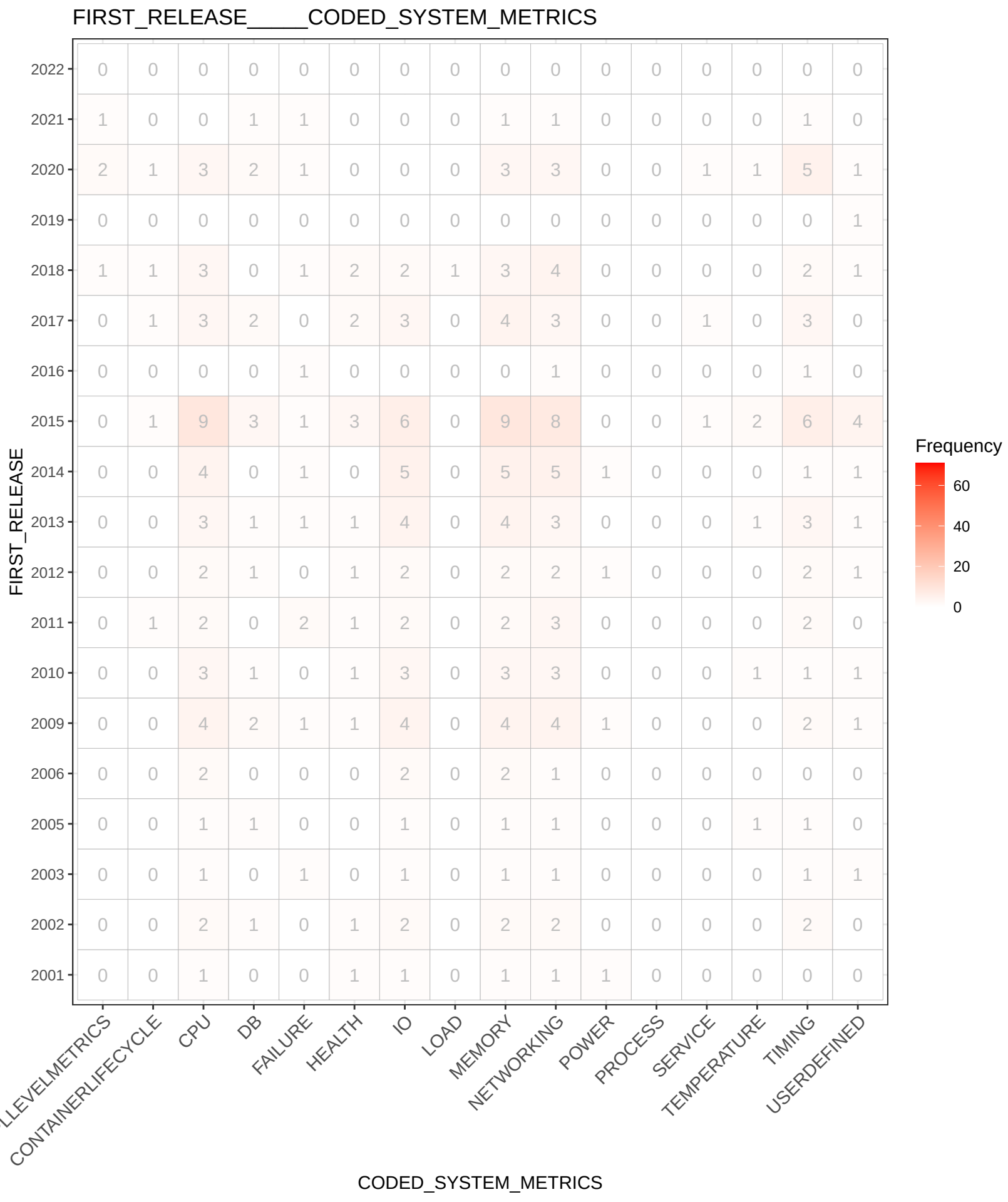

FIRST_RELEASE_____CODED_VISUALIZATION
2022 0 0 0
2021 1 1 1
2020 4 2 4
2019 1 1 1
2018 3 3 5
2017 4 3 2
2016 1 0 0
2015 9 5 8
2014 3 3 4
2013 3 3 3
2012 2 2 2
2011 3 2 2
2010 3 3 3
2009 4 4 4
2006 2 2 2
2005 0 0 0
2003 1 1 1
2002 2 2 2
2001 1 1 1
FIRST_RELEASE
Frequency
60
40
20
0
CHARTS
DASHBOARDS
TABLES
CODED_VISUALIZATION

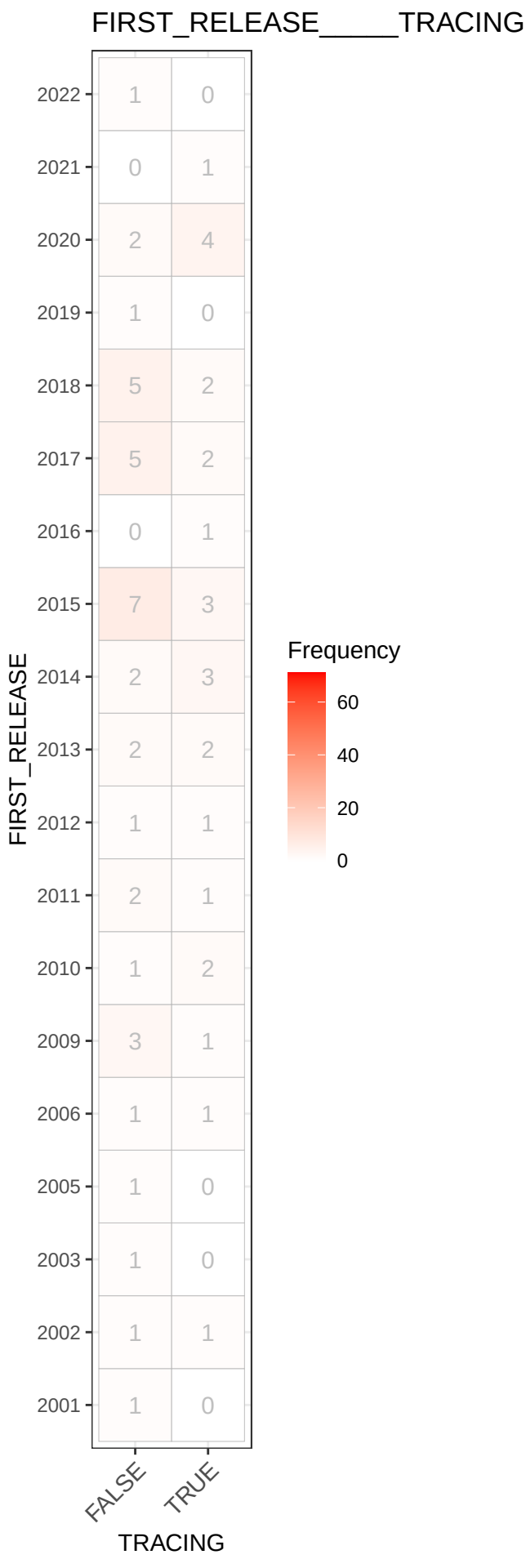

FIRST_RELEASE_____CODED_TECHNOLOGIES
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2021 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2020 0 1 0 3 0 0 1 0 1 0 0 1 4 0 3 2 1 0 0 1 1 0 2 2 1 1 2 1 0 0 2 1 0
2019 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2018 0 0 0 1 0 0 0 0 0 0 0 0 1 0 3 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0
2017 0 0 0 3 0 0 0 0 0 0 1 0 5 0 3 3 0 0 0 0 1 1 0 1 0 1 0 0 0 0 0 0 0
2016 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2015 0 0 0 8 0 0 0 0 0 0 0 0 4 1 7 5 0 1 0 1 1 0 3 3 0 1 0 1 0 1 0 1 0
2014 0 0 0 3 0 0 0 0 0 1 0 0 2 0 1 0 0 0 0 0 1 0 0 1 0 0 0 1 1 0 0 0 0
2013 0 0 0 3 0 0 0 0 0 0 0 0 1 0 2 2 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0
2012 0 0 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2011 0 0 1 3 0 0 0 0 0 0 0 0 1 0 3 2 0 0 0 1 1 0 1 2 0 0 2 0 0 0 0 0 0
2010 0 0 0 0 0 0 0 0 0 0 0 0 1 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2009 0 0 0 3 1 0 0 0 0 0 0 0 0 0 2 1 0 0 0 1 1 0 1 3 0 0 0 0 0 0 0 0 0
2006 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0
2005 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
2003 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1
2002 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 2 2 2 0 0 0 0 0 1 0 0 1
2001 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
AJAX ANDROID ANGULARJS C CC CLOJURE DJANGO ELIXIR ERLANG ESCALA EXTJS FLASHK GO GOLANG JAVA JAVASCRIPT LARAVEL LUA NAGIOS NET NODEJS PERL PHP PYTHON RAILS REACT RUBY RUST SCALA SHELL SWIFT TYPESCRIPT XML
CODED_TECHNOLOGIES
Frequency
60
40
20
0

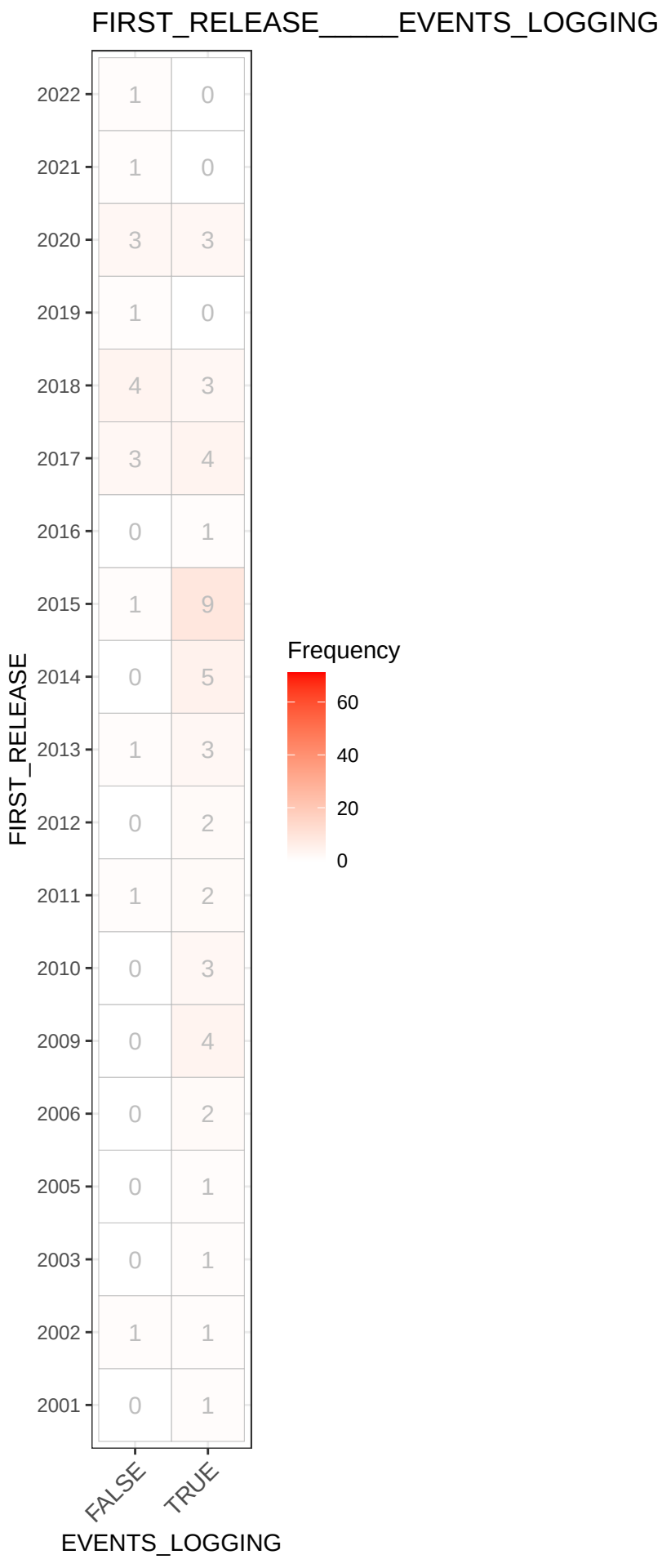

FIRST_RELEASE_____CODED_INTEGRATION
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2021 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
2020 0 1 0 0 0 0 0 0 1 1 0 0 0 0 2 0 0 0 0 0 1 2
2019 0 0 0 0 0 0 0 0 1 1 1 0 0 0 1 0 0 0 0 0 0 0
2018 0 0 0 0 3 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 1 1
2017 0 2 0 0 1 2 0 0 4 4 1 0 0 0 0 0 1 0 0 0 2 2
2016 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2015 1 4 1 0 5 2 0 0 3 2 0 0 2 3 1 0 0 0 0 0 1 3
2014 1 0 0 0 3 0 0 1 2 0 0 0 0 0 0 0 2 0 0 0 0 3
2013 0 2 0 0 1 0 0 0 2 2 1 0 1 1 0 0 0 0 1 0 0 1
2012 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1
2011 1 1 0 0 1 1 0 0 1 2 0 0 0 1 0 0 1 0 0 0 3 1
2010 0 0 0 0 1 0 0 0 2 2 0 0 1 0 0 0 0 0 0 0 0 3
2009 1 1 0 1 4 1 0 0 1 1 1 0 2 1 0 0 0 0 0 0 0 3
2006 0 0 0 0 1 1 0 0 0 0 1 1 1 1 0 1 0 0 0 0 0 1
2005 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1
2003 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0
2002 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 1 1 1
2001 0 0 0 0 0 1 1 0 0 0 1 1 1 0 1 0 0 1 0 0 0 1
AGENTS
NGEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
40
20
0


FIRST_RELEASE_____CODED_ASSUMPTIONS
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2021 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
2020 0 0 0 1 0 1 0 0 0 1 0 1 1 0 0 0 0 0 0 0
2019 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
2018 0 1 1 1 0 0 0 1 0 0 1 0 0 0 0 1 1 0 0 0
2017 0 0 0 0 1 0 0 1 0 1 0 1 0 0 0 2 0 0 0 0
2016 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
2015 0 0 0 1 2 0 0 1 0 1 1 0 0 0 1 1 0 0 0 0
2014 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 2 0 1 0 0
2013 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1
2012 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2011 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0
2010 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2009 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
2006 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
2003 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2002 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2001 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
CROSSPLATFORM
TJAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0

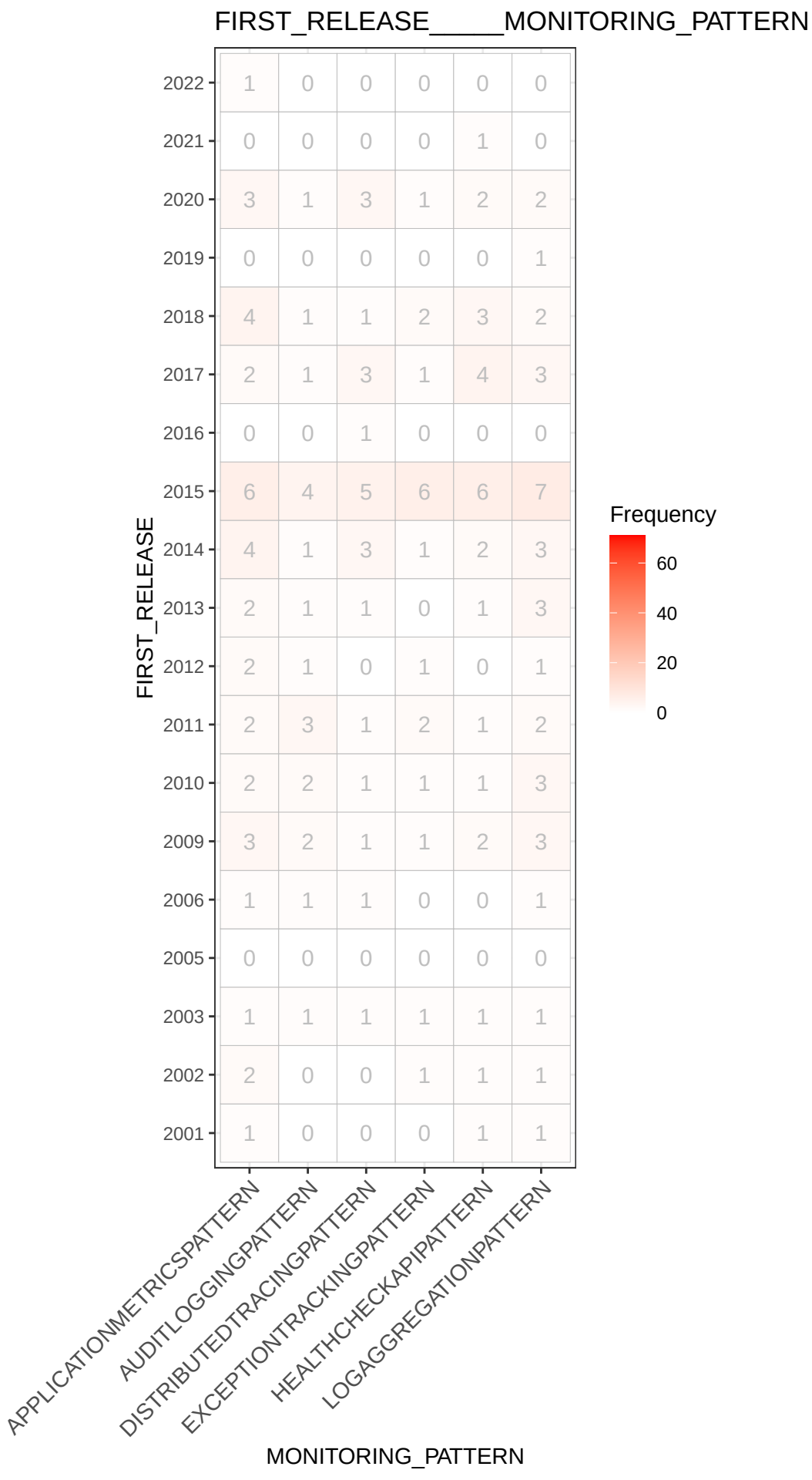

FIRST_RELEASE_____CODED_USER_METRICS
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2021 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2020 0 0 0 1 2 1 1 0 2 0 0 0 0 2 1 1 1
2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
2018 0 0 0 0 1 1 0 0 0 0 0 0 0 0 2 0 0
2017 0 0 0 0 2 1 0 0 3 0 0 0 1 3 2 0 0
2016 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2015 0 0 0 1 2 0 0 0 3 1 0 0 0 2 3 0 0
2014 0 0 1 0 3 1 1 1 2 0 0 0 0 2 2 1 0
2013 0 1 0 1 0 0 1 1 2 0 1 0 0 2 2 1 1
2012 0 0 0 0 1 0 0 0 1 0 0 0 0 2 2 0 0
2011 0 0 0 0 1 2 0 0 0 0 0 0 0 0 0 0 1
2010 0 0 0 0 2 1 2 1 1 0 0 0 0 1 1 2 0
2009 1 0 0 0 3 2 3 0 2 1 0 1 0 3 3 2 1
2006 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
2005 0 0 0 0 1 0 1 0 1 0 0 0 0 0 0 1 0
2003 0 0 0 0 1 0 0 0 0 0 0 0 0 1 1 0 1
2002 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0
2001 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0

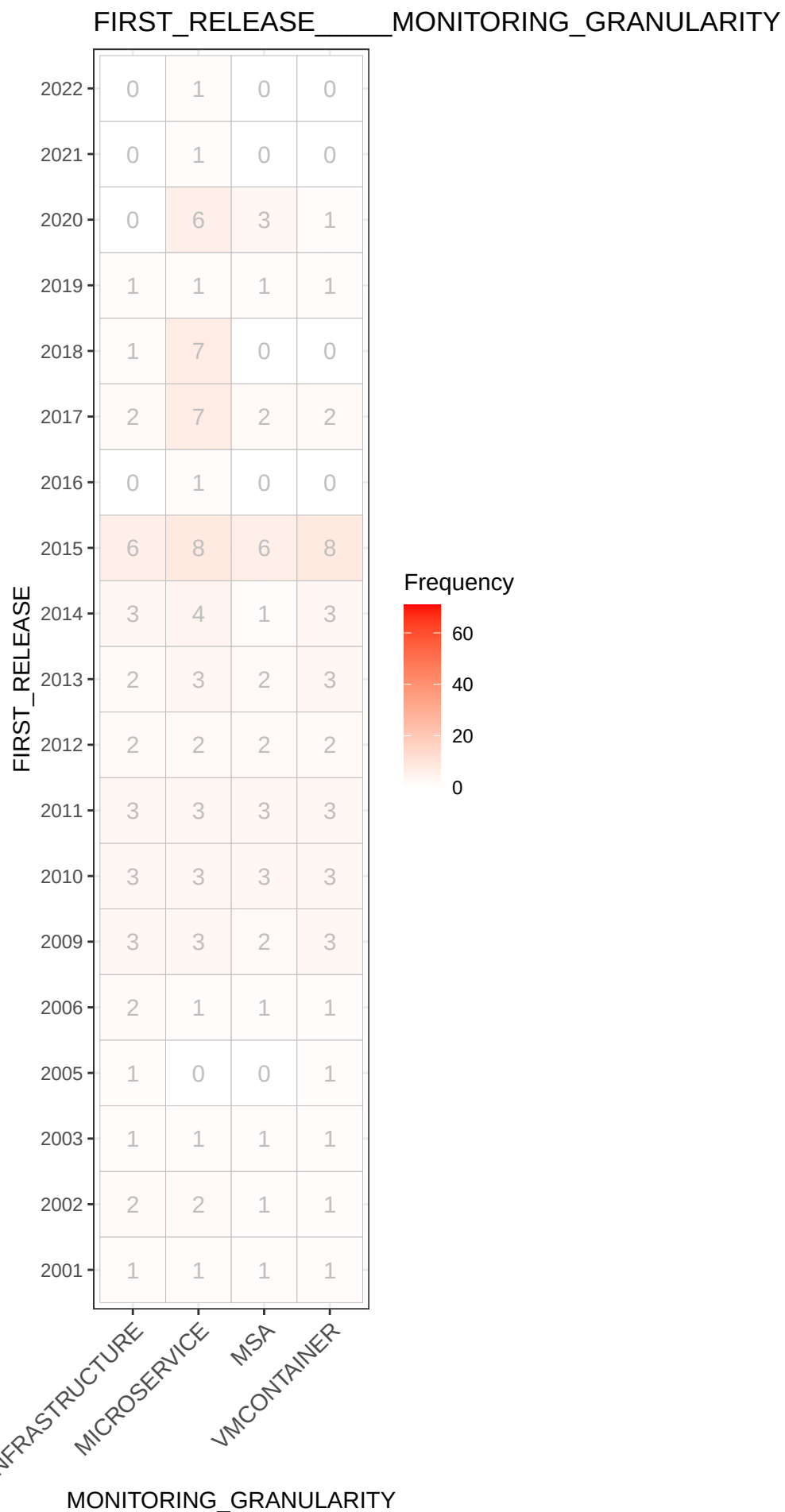

FIRST_RELEASE_____CODED_SYSTEM_METRICS
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2021 1 0 0 1 1 0 0 0 1 1 0 0 0 0 1 0
2020 2 1 3 2 1 0 0 0 3 3 0 0 1 1 5 1
2019 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
2018 1 1 3 0 1 2 2 1 3 4 0 0 0 0 2 1
2017 0 1 3 2 0 2 3 0 4 3 0 0 1 0 3 0
2016 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0
2015 0 1 9 3 1 3 6 0 9 8 0 0 1 2 6 4
2014 0 0 4 0 1 0 5 0 5 5 1 0 0 0 1 1
2013 0 0 3 1 1 1 4 0 4 3 0 0 0 1 3 1
2012 0 0 2 1 0 1 2 0 2 2 1 0 0 0 2 1
2011 0 1 2 0 2 1 2 0 2 3 0 0 0 0 2 0
2010 0 0 3 1 0 1 3 0 3 3 0 0 0 1 1 1
2009 0 0 4 2 1 1 4 0 4 4 1 0 0 0 2 1
2006 0 0 2 0 0 0 2 0 2 1 0 0 0 0 0 0
2005 0 0 1 1 0 0 1 0 1 1 0 0 0 1 1 0
2003 0 0 1 0 1 0 1 0 1 1 0 0 0 0 1 1
2002 0 0 2 1 0 1 2 0 2 2 0 0 0 0 2 0
2001 0 0 1 0 0 1 1 0 1 1 1 0 0 0 0 0
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
0

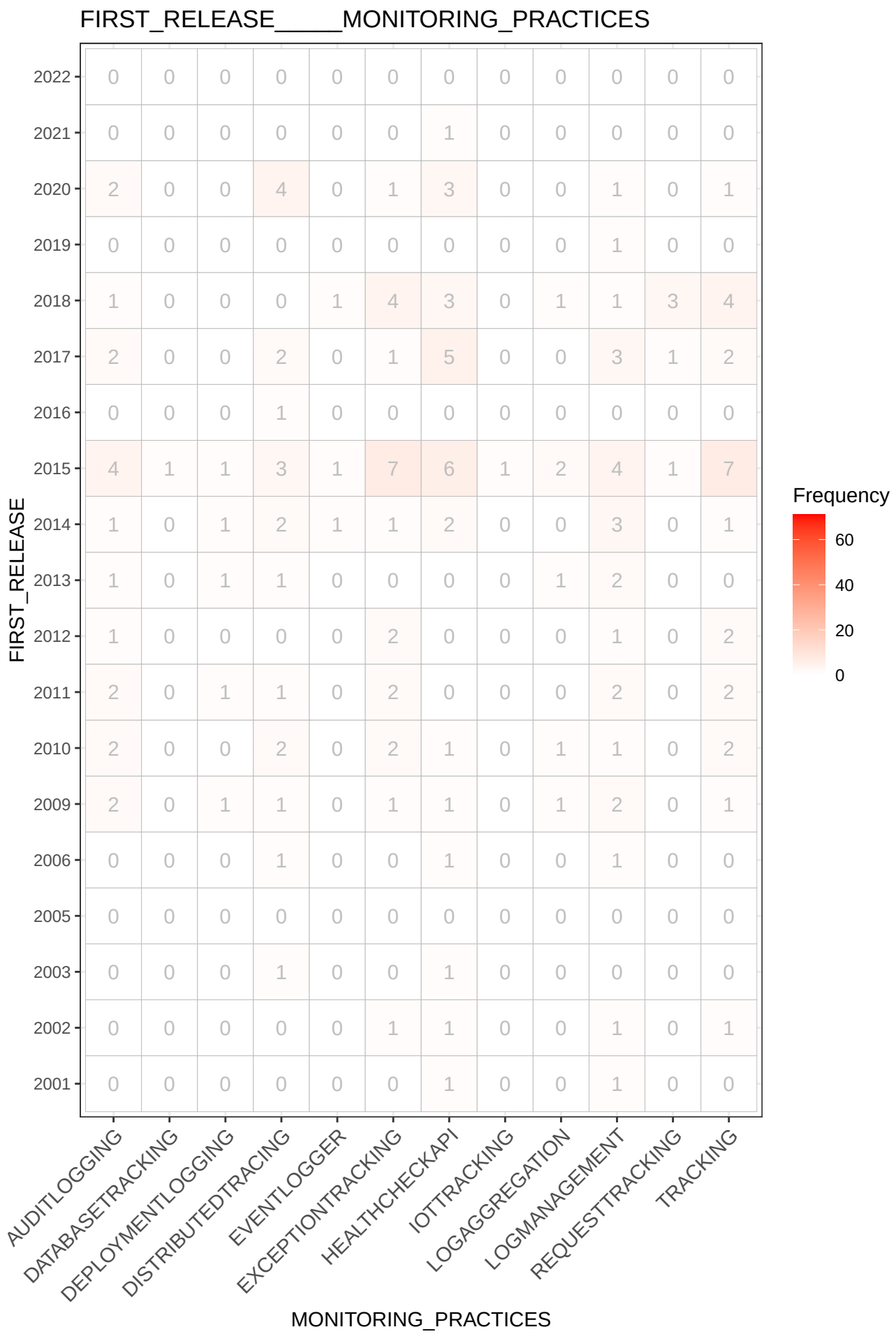

FIRST_RELEASE_____TRACING
2022
2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2006
2005
2003
2002
2001
1 0
0 1
2 4
1 0
5 2
5 2
0 1
7 3
2 3
2 2
1 1
2 1
1 2
3 1
1 1
1 0
1 0
1 1
1 0
FIRST_RELEASE
Frequency
60
40
20
0
FALSE
TRUE
TRACING

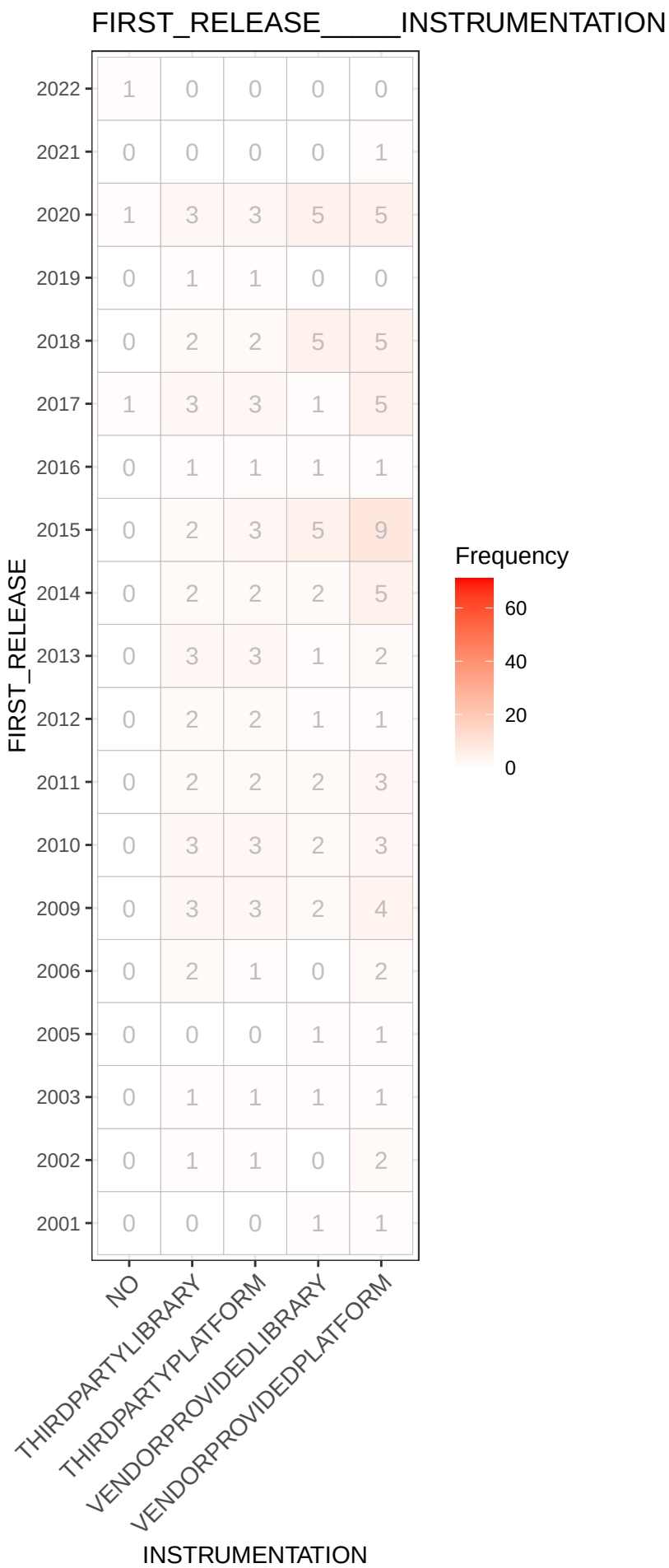

FIRST_RELEASE_____EVENTS_LOGGING
2022 1 0
2021 1 0
2020 3 3
2019 1 0
2018 4 3
2017 3 4
2016 0 1
2015 1 9
2014 0 5
2013 1 3
2012 0 2
2011 1 2
2010 0 3
2009 0 4
2006 0 2
2005 0 1
2003 0 1
2002 1 1
2001 0 1
FIRST_RELEASE
Frequency
60
40
20
0
FALSE
TRUE
EVENTS_LOGGING

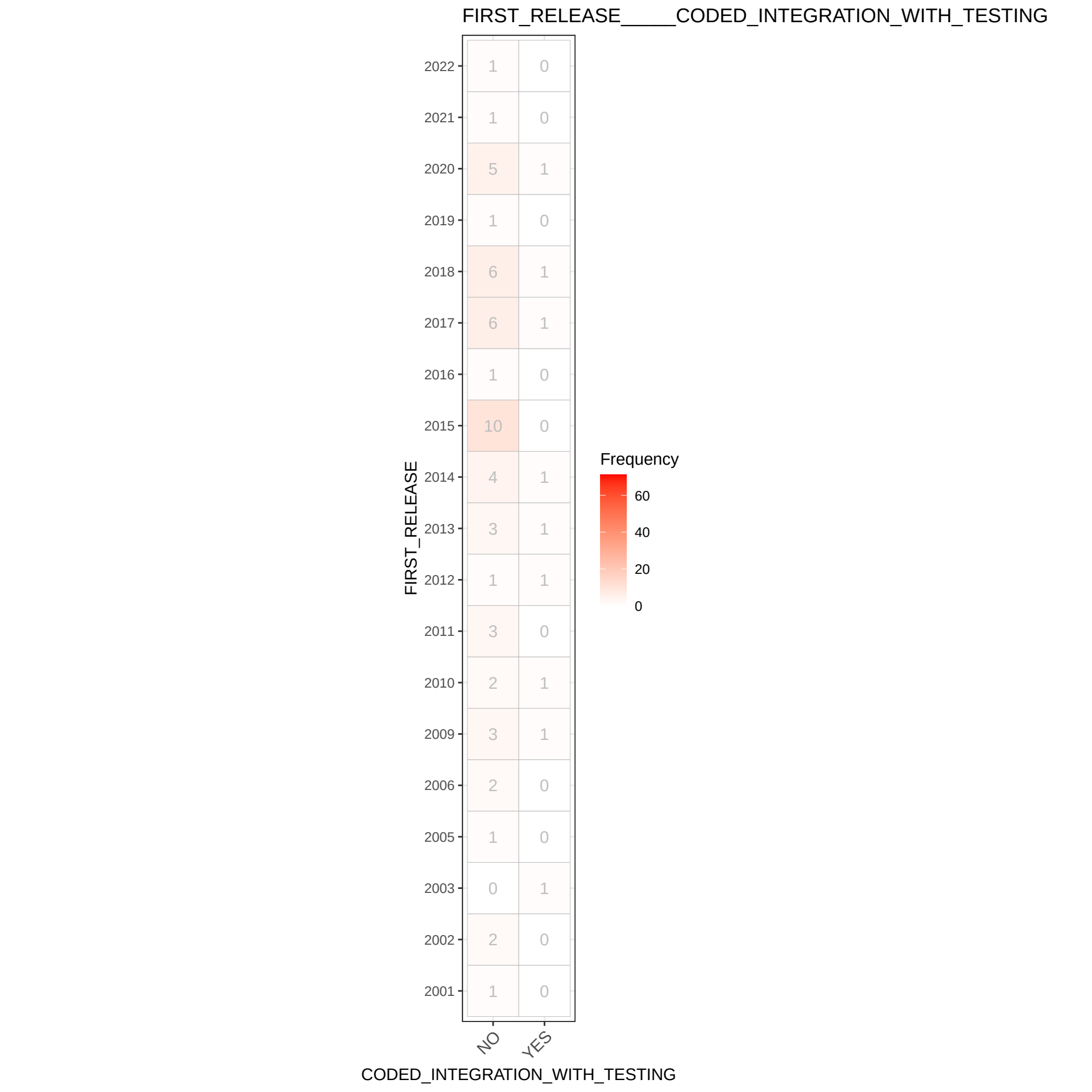
FIRST_RELEASE_____CODED_TARGET_QUALITY_ATTRIBUTE
FIRST_RELEASE
2022 0 0 0 0 0 1 0 0 0
2021 0 0 0 0 1 0 0 0 0
2020 0 0 0 0 4 3 0 0 1
2019 0 0 0 0 1 1 1 0 0
2018 0 0 0 1 4 5 0 0 1
2017 0 0 0 0 6 5 1 0 1
2016 0 0 0 0 1 0 0 0 0
2015 0 1 0 0 10 8 4 0 1
2014 0 1 0 0 5 4 0 0 0
2013 0 0 0 0 4 3 0 1 0
2012 0 1 1 0 2 1 0 0 1
2011 0 0 0 0 3 2 1 0 0
2010 0 0 0 0 3 2 0 0 0
2009 0 0 0 0 4 4 0 1 0
2006 0 0 0 0 2 1 0 0 0
2005 0 0 0 0 1 1 0 0 0
2003 0 0 0 0 1 1 1 1 0
2002 1 0 0 0 2 2 1 1 0
2001 0 0 0 0 1 1 1 0 0
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0


FIRST_RELEASE_____MONITORING_PATTERN
2022 1 0 0 0 0 0
2021 0 0 0 0 1 0
2020 3 1 3 1 2 2
2019 0 0 0 0 0 1
2018 4 1 1 2 3 2
2017 2 1 3 1 4 3
2016 0 0 1 0 0 0
2015 6 4 5 6 6 7
2014 4 1 3 1 2 3
2013 2 1 1 0 1 3
2012 2 1 0 1 0 1
2011 2 3 1 2 1 2
2010 2 2 1 1 1 3
2009 3 2 1 1 2 3
2006 1 1 1 0 0 1
2005 0 0 0 0 0 0
2003 1 1 1 1 1 1
2002 2 0 0 1 1 1
2001 1 0 0 0 1 1
FIRST_RELEASE
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
40
20
0

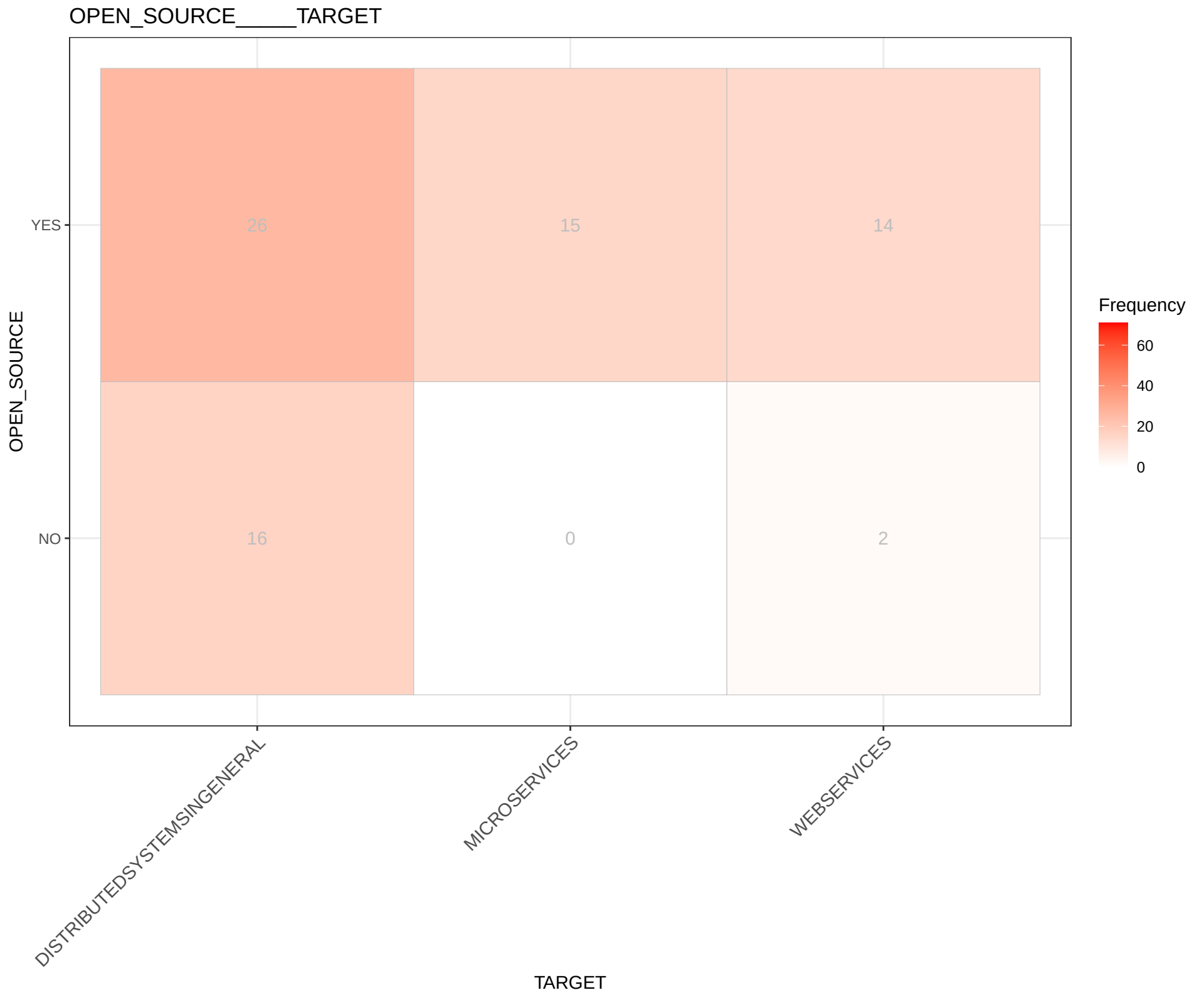

FIRST_RELEASE_____MONITORING_GRANULARITY
FIRST_RELEASE
2022 0 1 0 0
2021 0 1 0 0
2020 0 6 3 1
2019 1 1 1 1
2018 1 7 0 0
2017 2 7 2 2
2016 0 1 0 0
2015 6 8 6 8
2014 3 4 1 3
2013 2 3 2 3
2012 2 2 2 2
2011 3 3 3 3
2010 3 3 3 3
2009 3 3 2 3
2006 2 1 1 1
2005 1 0 0 1
2003 1 1 1 1
2002 2 2 1 1
2001 1 1 1 1
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0

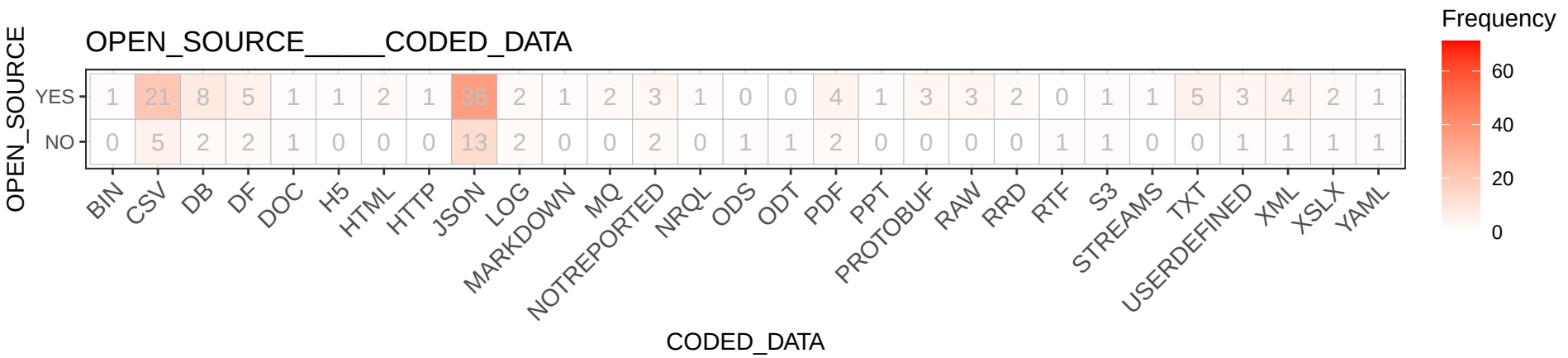

FIRST_RELEASE_____MONITORING_PRACTICES
FIRST_RELEASE
2022 0 0 0 0 0 0 0 0 0 0 0 0
2021 0 0 0 0 0 0 1 0 0 0 0 0
2020 2 0 0 4 0 1 3 0 0 1 0 1
2019 0 0 0 0 0 0 0 0 0 1 0 0
2018 1 0 0 0 1 4 3 0 1 1 3 4
2017 2 0 0 2 0 1 5 0 0 3 1 2
2016 0 0 0 1 0 0 0 0 0 0 0 0
2015 4 1 1 3 1 7 6 1 2 4 1 7
2014 1 0 1 2 1 1 2 0 0 3 0 1
2013 1 0 1 1 0 0 0 0 1 2 0 0
2012 1 0 0 0 0 2 0 0 0 1 0 2
2011 2 0 1 1 0 2 0 0 0 2 0 2
2010 2 0 0 2 0 2 1 0 1 1 0 2
2009 2 0 1 1 0 1 1 0 1 2 0 1
2006 0 0 0 1 0 0 1 0 0 1 0 0
2005 0 0 0 0 0 0 0 0 0 0 0 0
2003 0 0 0 1 0 0 1 0 0 0 0 0
2002 0 0 0 0 0 1 1 0 0 1 0 1
2001 0 0 0 0 0 0 1 0 0 1 0 0
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0

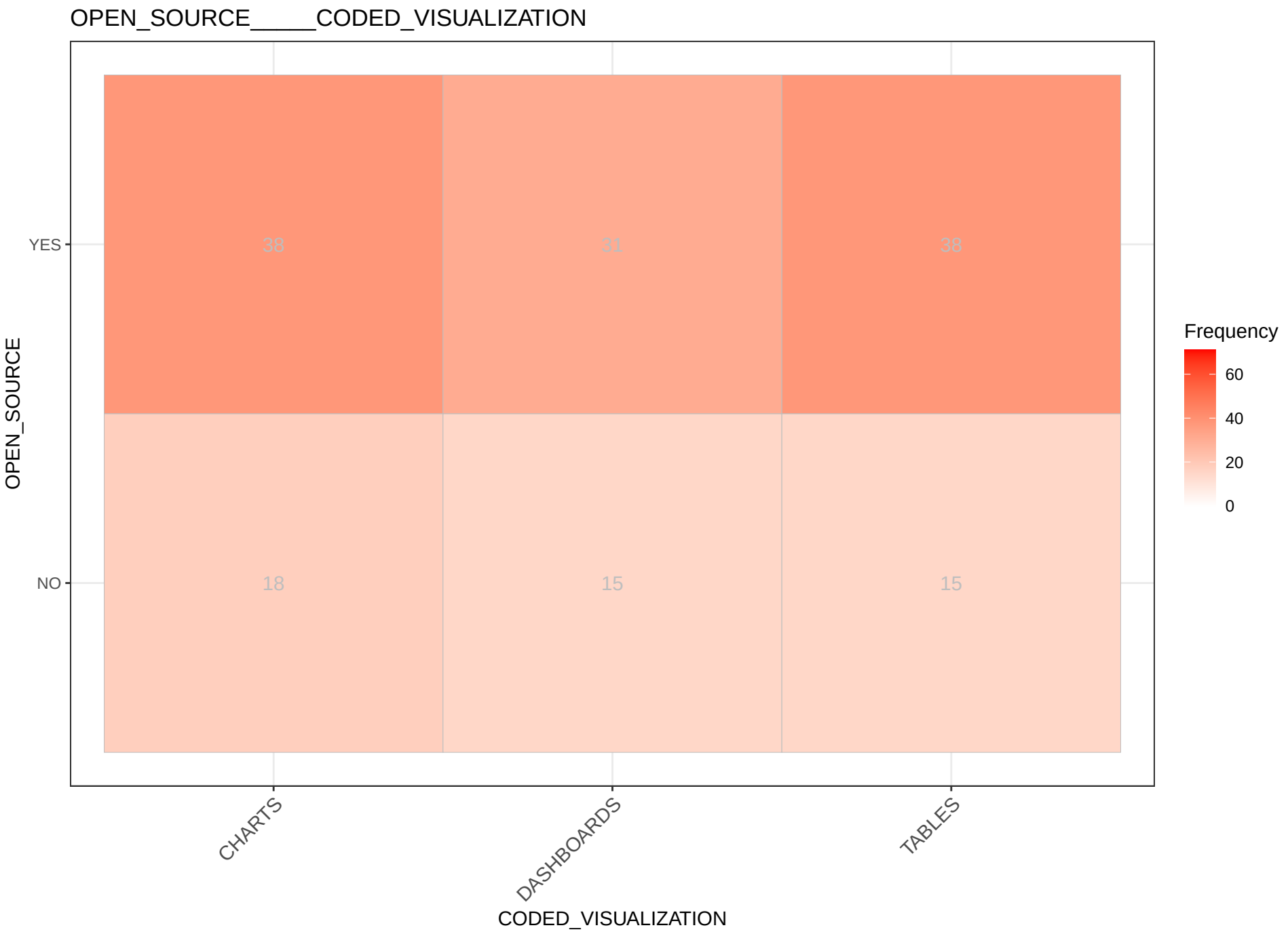

FIRST_RELEASE_____INSTRUMENTATION
2022 1 0 0 0 0
2021 0 0 0 0 1
2020 1 3 3 5 5
2019 0 1 1 0 0
2018 0 2 2 5 5
2017 1 3 3 1 5
2016 0 1 1 1 1
2015 0 2 3 5 9
2014 0 2 2 2 5
2013 0 3 3 1 2
2012 0 2 2 1 1
2011 0 2 2 2 3
2010 0 3 3 2 3
2009 0 3 3 2 4
2006 0 2 1 0 2
2005 0 0 0 1 1
2003 0 1 1 1 1
2002 0 1 1 0 2
2001 0 0 0 1 1
FIRST_RELEASE
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0

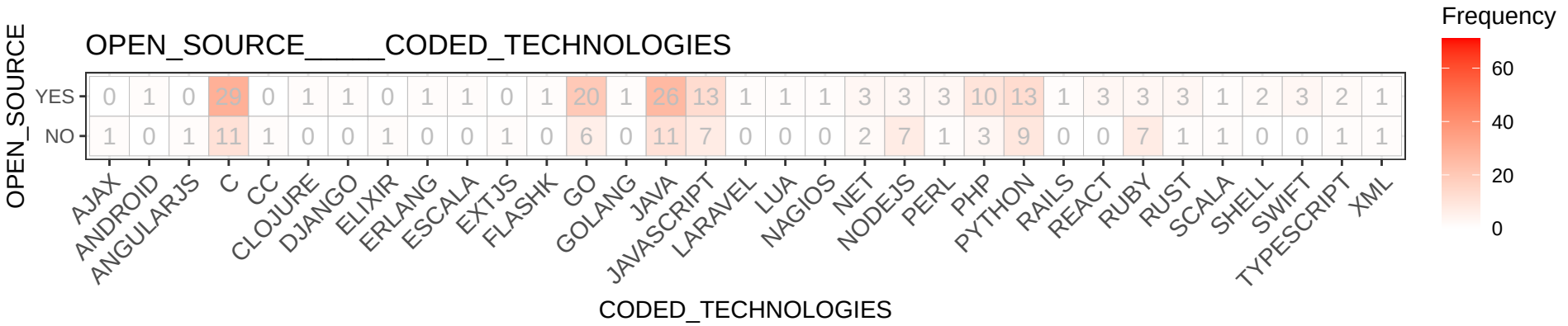

FIRST_RELEASE_____CODED_INTEGRATION_WITH_TESTING
2022 1 0
2021 1 0
2020 5 1
2019 1 0
2018 6 1
2017 6 1
2016 1 0
2015 10 0
2014 4 1
2013 3 1
2012 1 1
2011 3 0
2010 2 1
2009 3 1
2006 2 0
2005 1 0
2003 0 1
2002 2 0
2001 1 0
FIRST_RELEASE
Frequency
60
40
20
0
NO
YES
CODED_INTEGRATION_WITH_TESTING

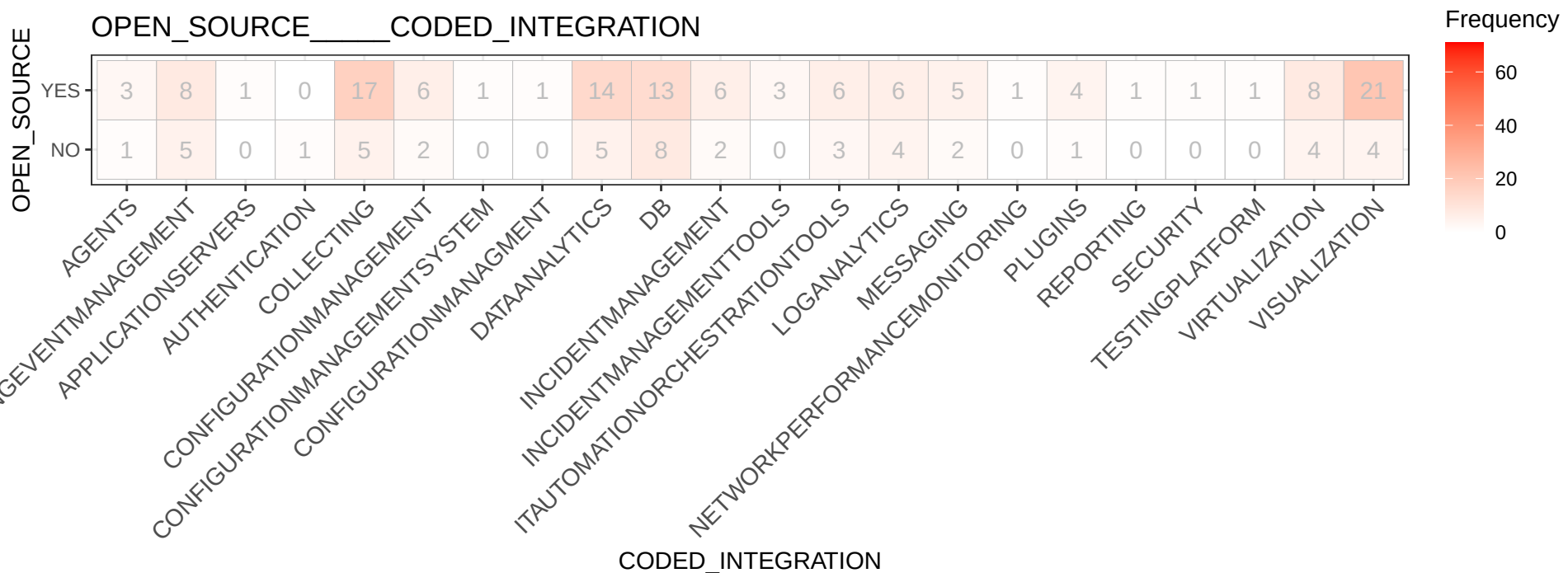
FIRST_RELEASE_____ADDRESSED_CHALLENGES
FIRST_RELEASE
2022 0 0 0 0 1 0 0 0 0
2021 0 0 1 1 1 0 0 0 0
2020 3 2 2 4 2 2 0 1 0
2019 0 0 1 1 1 1 1 0 0
2018 4 1 1 4 1 2 1 2 1
2017 5 3 3 4 3 1 2 2 1
2016 0 1 1 1 1 0 0 0 0
2015 9 5 8 9 6 3 3 9 1
2014 2 3 3 3 4 2 3 1 1
2013 3 1 3 3 3 1 2 1 1
2012 2 0 2 2 2 2 2 2 1
2011 2 2 3 2 2 3 1 1 1
2010 3 2 3 3 2 2 2 2 2
2009 3 1 3 4 2 1 3 2 1
2006 1 1 1 2 1 1 1 1 0
2005 1 0 0 1 0 0 0 1 0
2003 0 1 0 1 1 0 1 0 0
2002 2 0 2 2 1 1 1 1 0
2001 1 1 1 1 0 0 1 0 0
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0

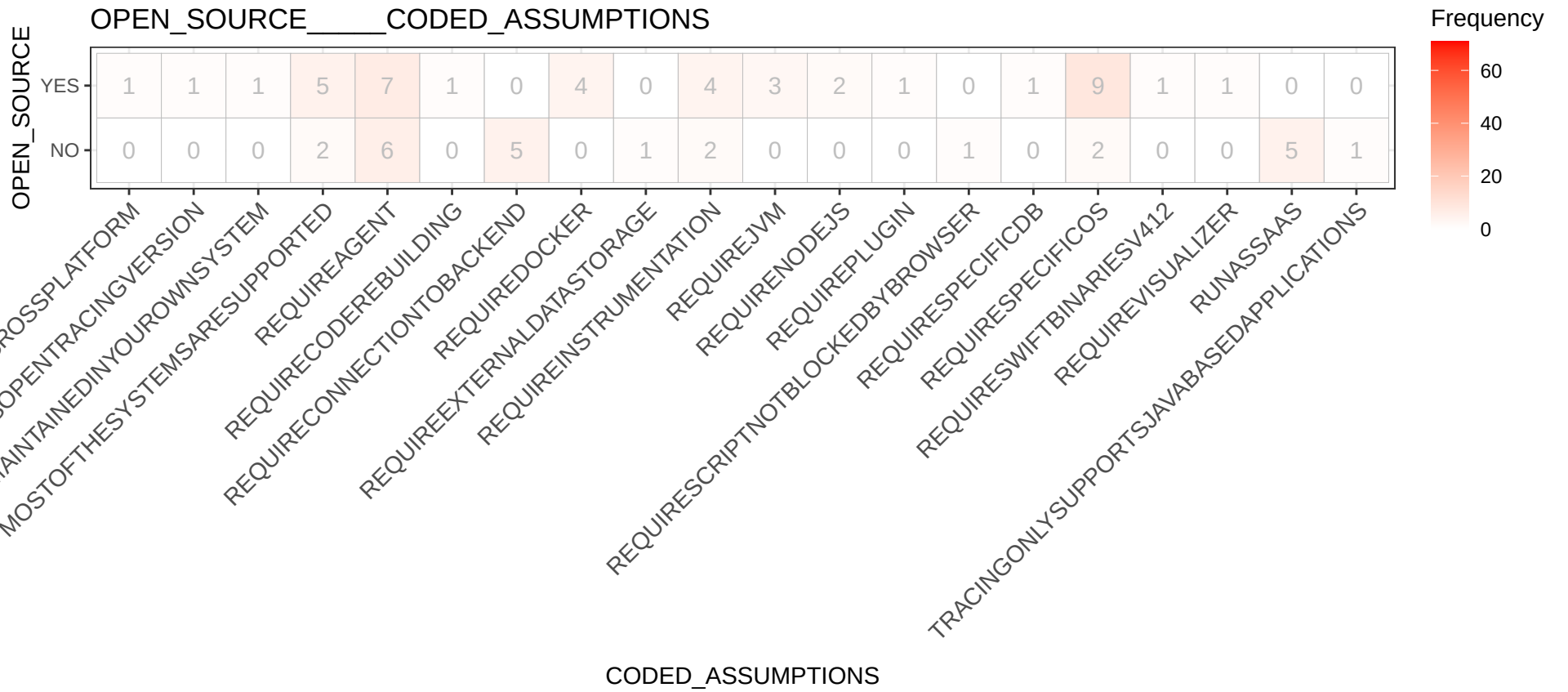

OPEN_SOURCE_____TARGET
YES
NO
26
15
14
16
0
2
OPEN_SOURCE
DISTRIBUTEDSYSTEMSINGENERAL
MICROSERVICES
WEBSERVICES
TARGET
Frequency
60
40
20
0

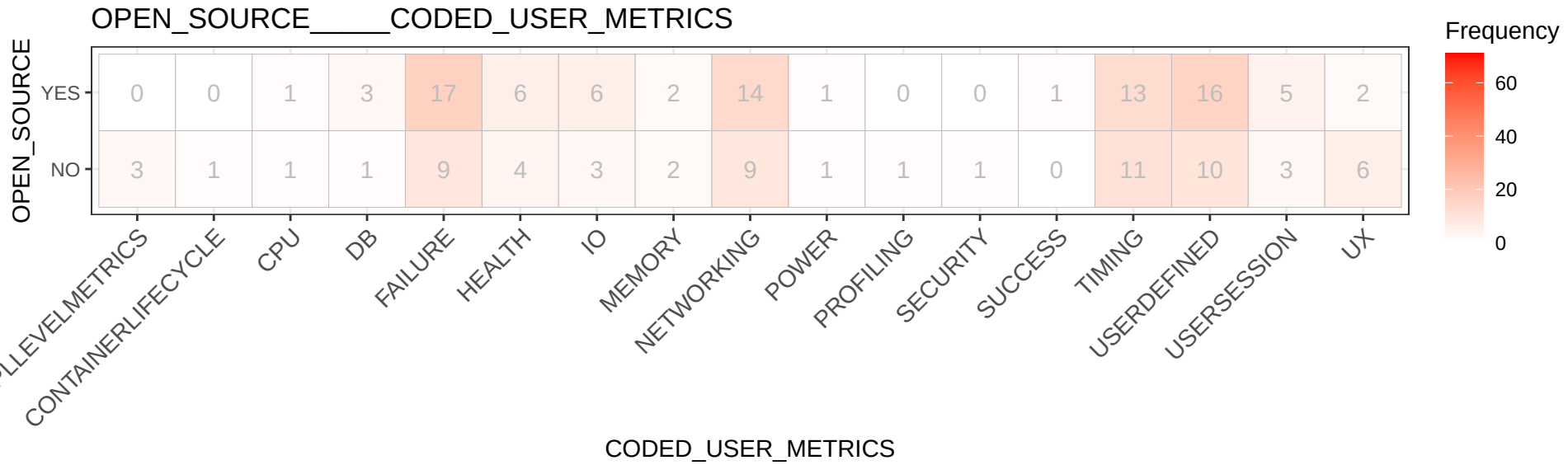

OPEN_SOURCE_____CODED_DATA
OPEN_SOURCE
YES
NO
1 21 8 5 1 1 2 1 36 2 1 2 3 1 0 0 4 1 3 3 2 0 1 1 5 3 4 2 1
0 5 2 2 1 0 0 0 13 2 0 0 2 0 1 1 2 0 0 0 0 1 1 0 0 1 1 1 1
BIN
CSV
DB
DF
DOC
H5
HTML
HTTP
JSON
LOG
MARKDOWN
MQ
NOTREPORTED
NRQL
ODS
ODT
PDF
PPT
PROTOBUF
RAW
RRD
RTF
S3
STREAMS
TXT
USERDEFINED
XML
XSLX
YAML
CODED_DATA
Frequency
60
40
20
0

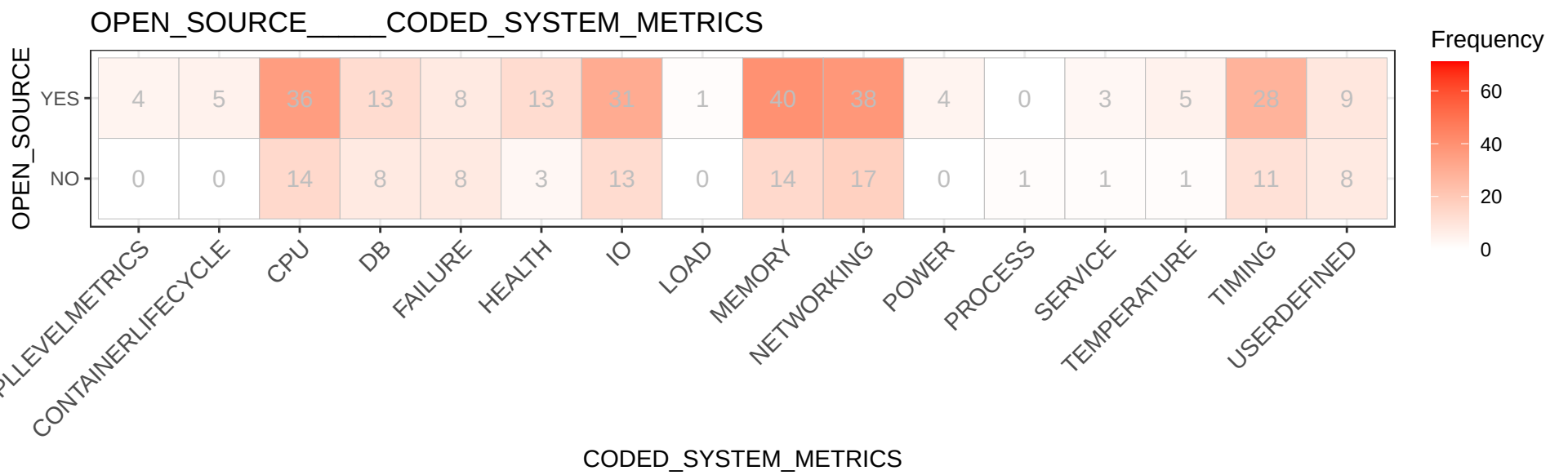

OPEN_SOURCE_____CODED_VISUALIZATION
YES
NO
38
31
38
18
15
15
OPEN_SOURCE
CHARTS
DASHBOARDS
TABLES
CODED_VISUALIZATION
Frequency
60
40
20
0

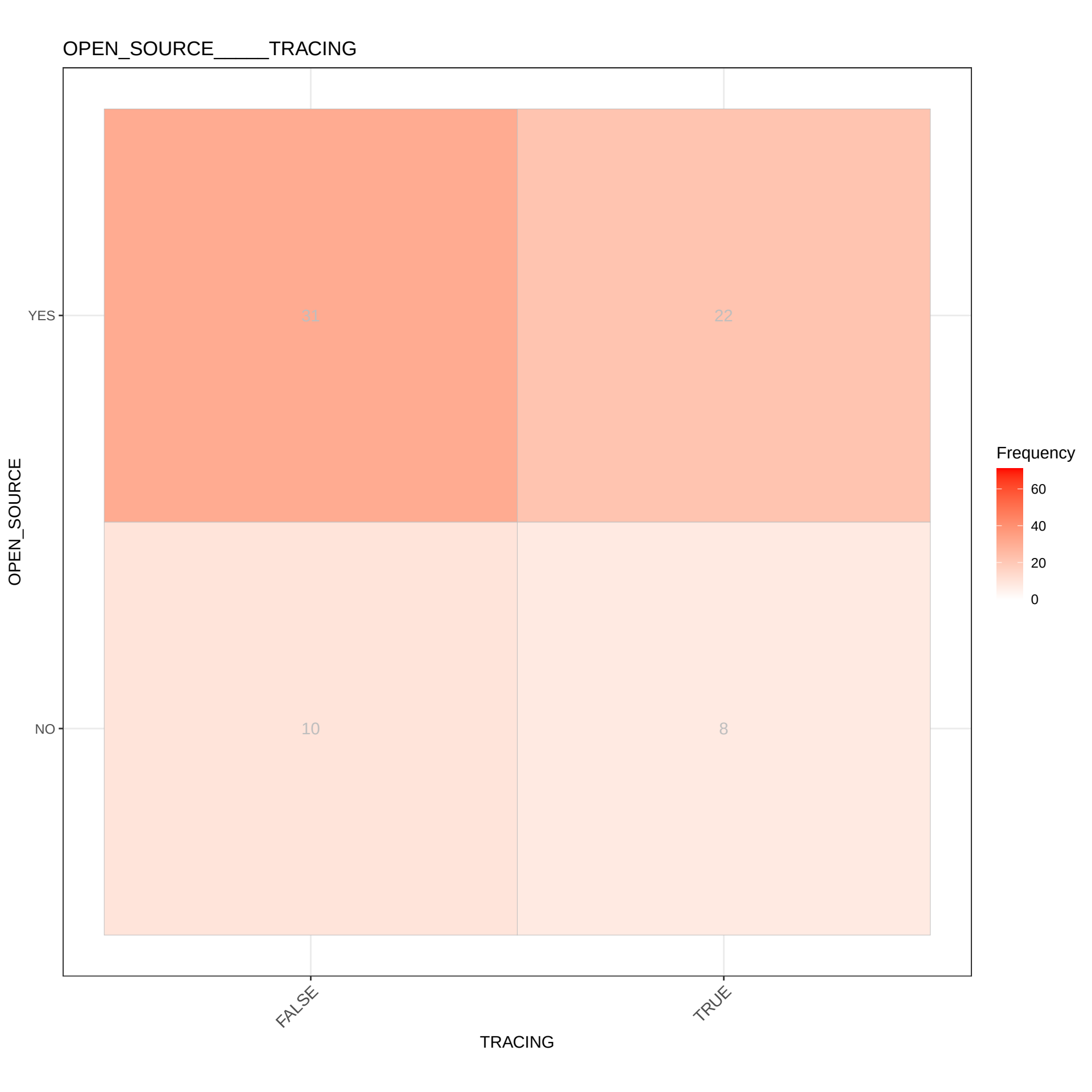

OPEN_SOURCE_____CODED_TECHNOLOGIES
OPEN_SOURCE
YES
NO
0 1 0 29 0 1 1 0 1 1 0 1 20 1 26 13 1 1 1 3 3 3 10 13 1 3 3 3 1 2 3 2 1
1 0 1 11 1 0 0 1 0 0 1 0 6 0 11 7 0 0 0 2 7 1 3 9 0 0 7 1 1 0 0 1 1
AJAX
ANDROID
ANGULARJS
C
CC
CLOJURE
DJANGO
ELIXIR
ERLANG
ESCALA
EXTJS
FLASHK
GO
GOLANG
JAVA
JAVASCRIPT
LARAVEL
LUA
NAGIOS
NET
NODEJS
PERL
PHP
PYTHON
RAILS
REACT
RUBY
RUST
SCALA
SHELL
SWIFT
TYPESCRIPT
XML
CODED_TECHNOLOGIES
Frequency
60
40
20
0

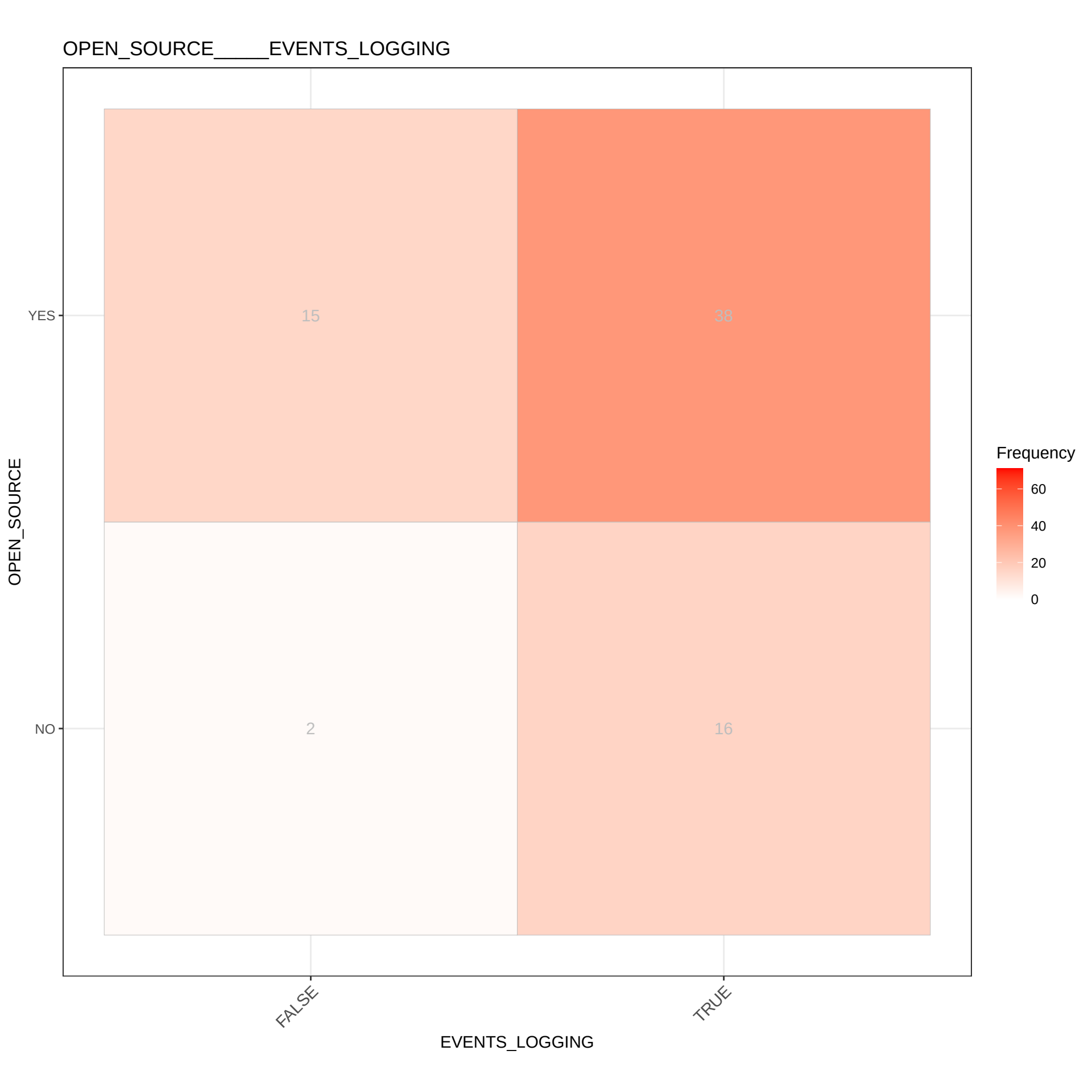

OPEN_SOURCE_____CODED_INTEGRATION
OPEN_SOURCE
YES
NO
3 8 1 0 17 6 1 1 14 13 6 3 6 6 5 1 4 1 1 1 8 21
1 5 0 1 5 2 0 0 5 8 2 0 3 4 2 0 1 0 0 0 4 4
AGENTS
GEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
40
20
0

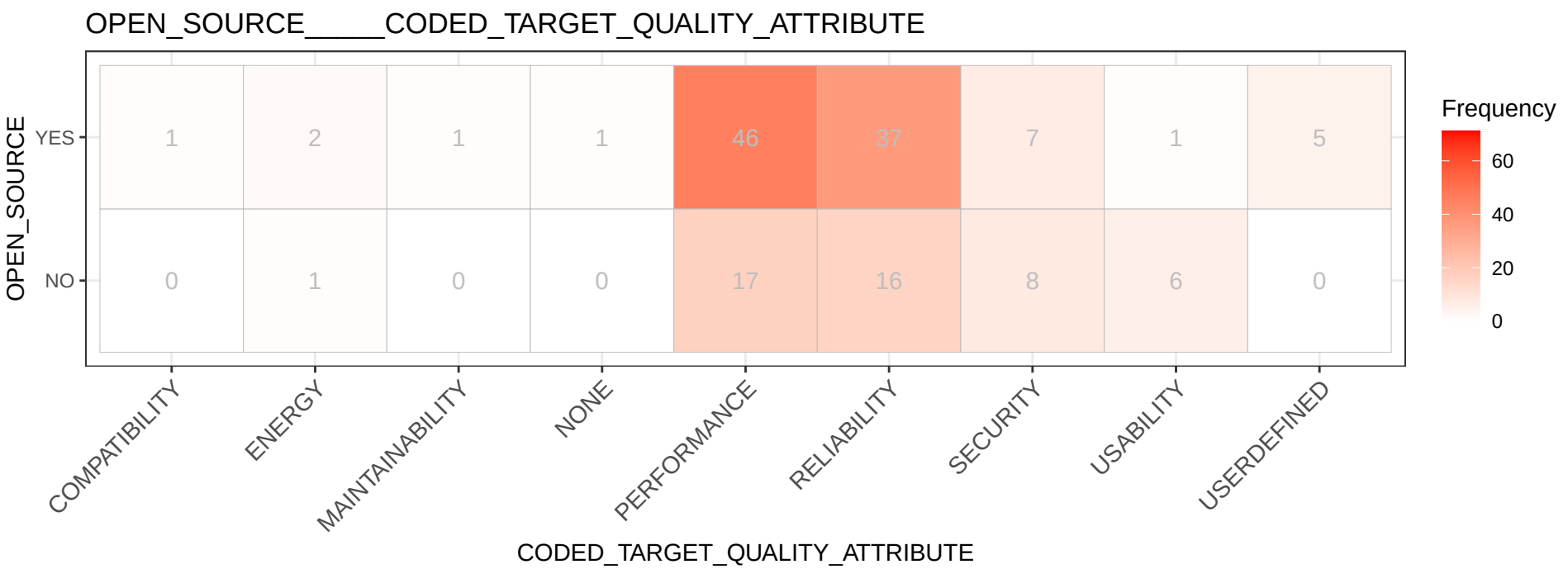

OPEN_SOURCE_____CODED_ASSUMPTIONS
OPEN_SOURCE
YES
NO
1 1 1 5 7 1 0 4 0 4 3 2 1 0 1 9 1 1 0 0
0 0 0 2 6 0 5 0 1 2 0 0 0 1 0 2 0 0 5 1
ROSSPLATFORM
OPENTRACINGVERSION
AINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0

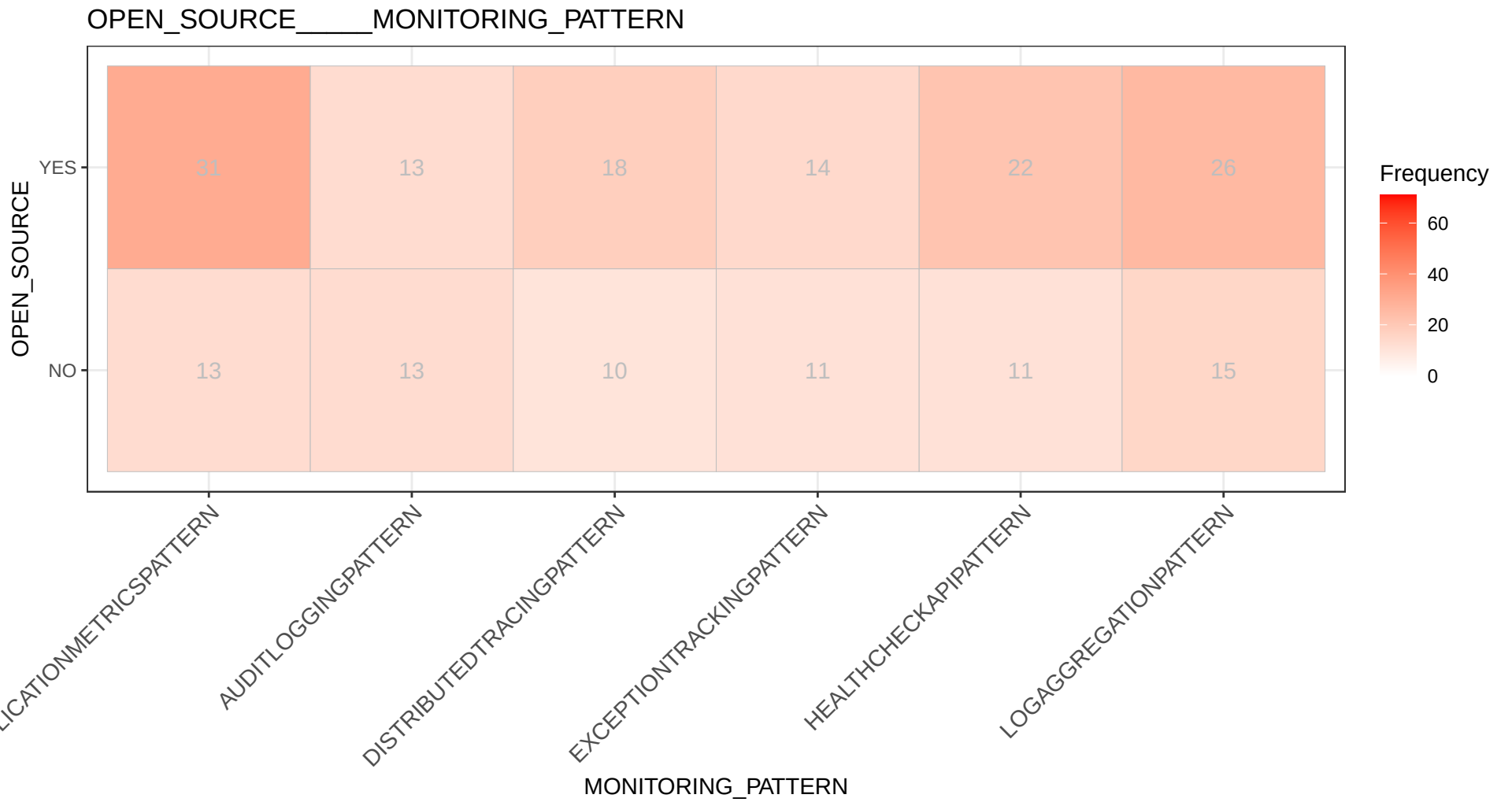

OPEN_SOURCE_____CODED_USER_METRICS
OPEN_SOURCE
YES
NO
0 0 1 3 17 6 6 2 14 1 0 0 1 13 16 5 2
3 1 1 1 9 4 3 2 9 1 1 1 0 11 10 3 6
LLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0

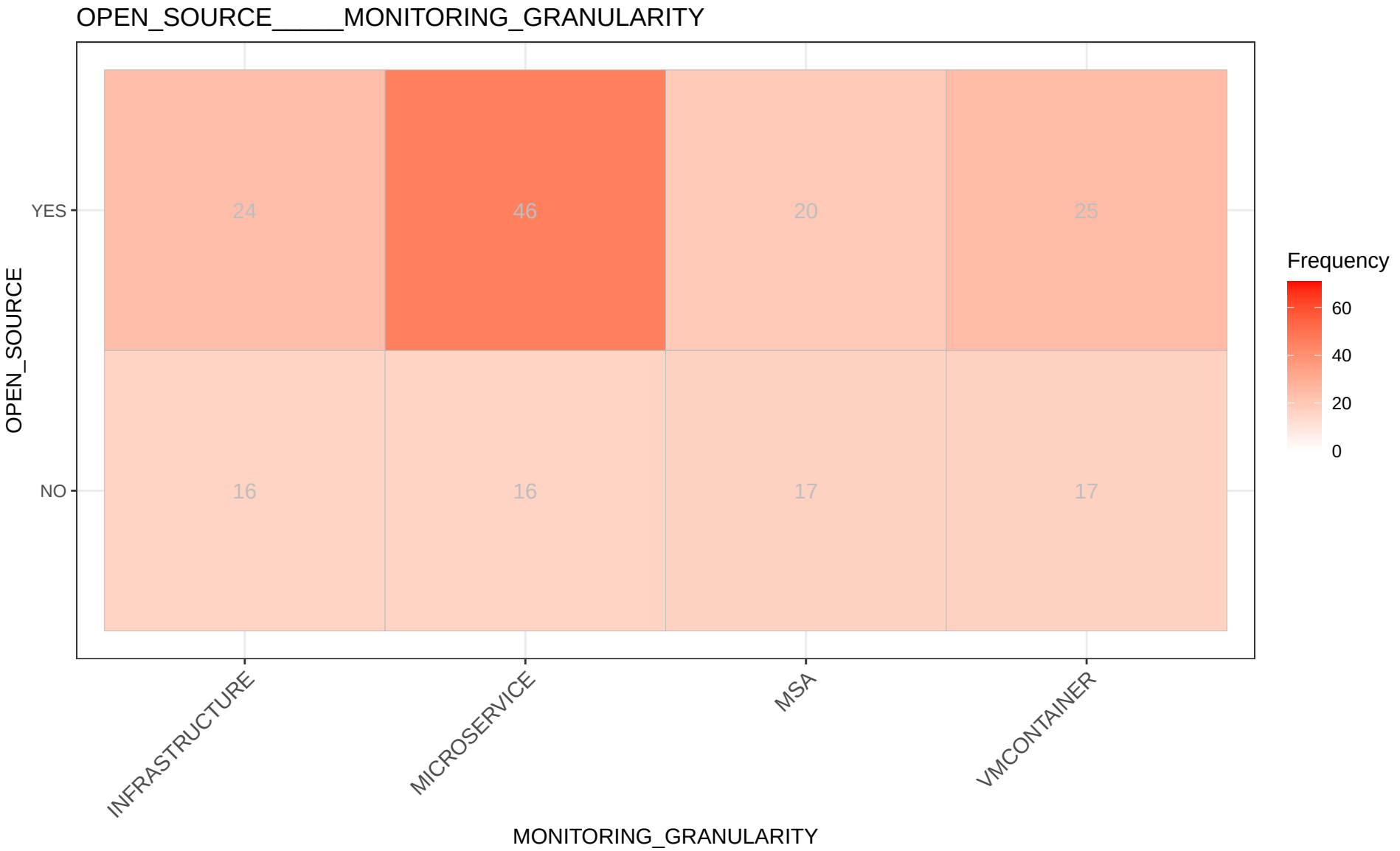

OPEN_SOURCE_____CODED_SYSTEM_METRICS
OPEN_SOURCE
YES
NO
4 5 36 13 8 13 31 1 40 38 4 0 3 5 28 9
0 0 14 8 8 3 13 0 14 17 0 1 1 1 11 8
PLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
0

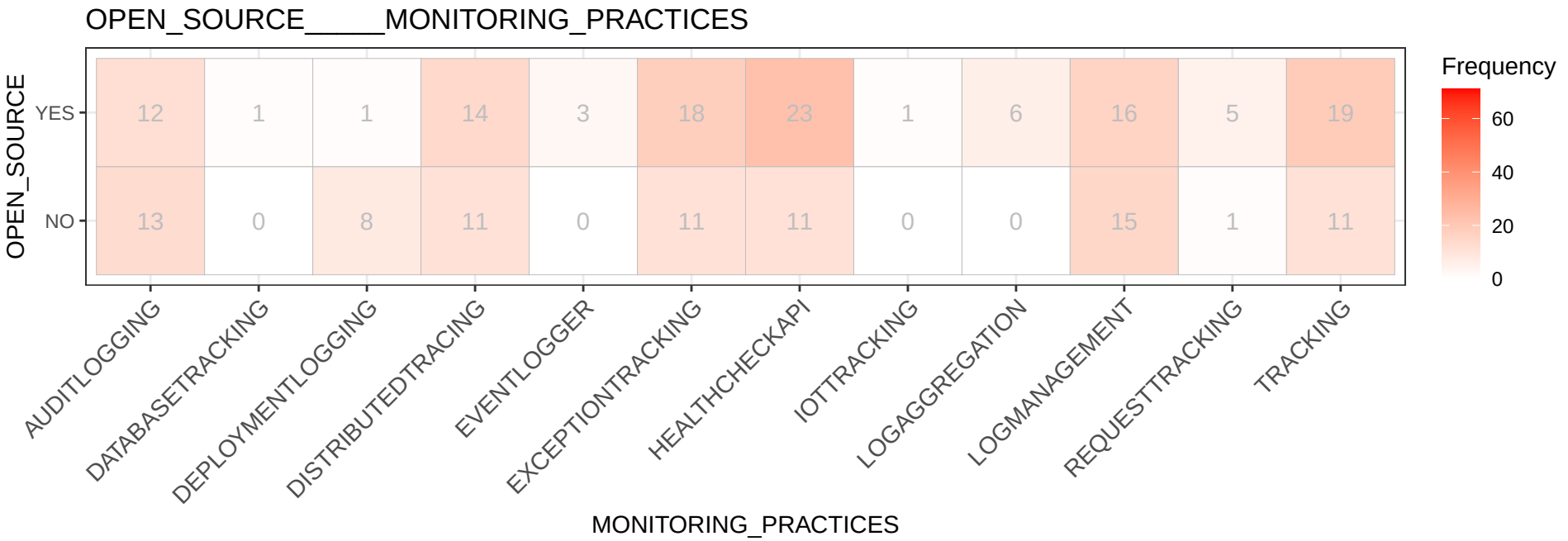

OPEN_SOURCE_____TRACING
YES
NO
31
22
10
8
OPEN_SOURCE
FALSE
TRUE
TRACING
Frequency
60
40
20
0

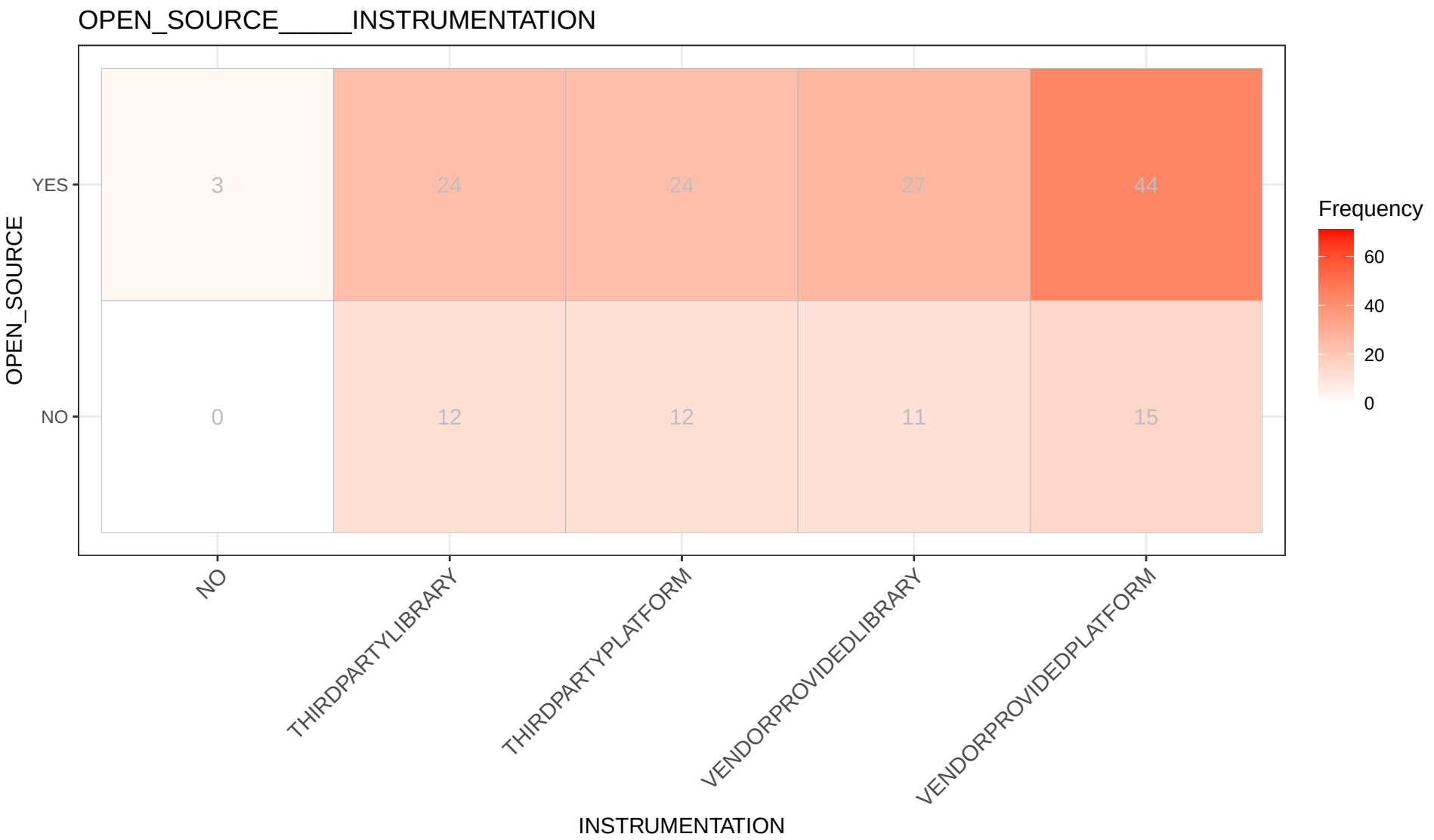

OPEN_SOURCE_____EVENTS_LOGGING
YES
NO
15
38
2
16
OPEN_SOURCE
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0

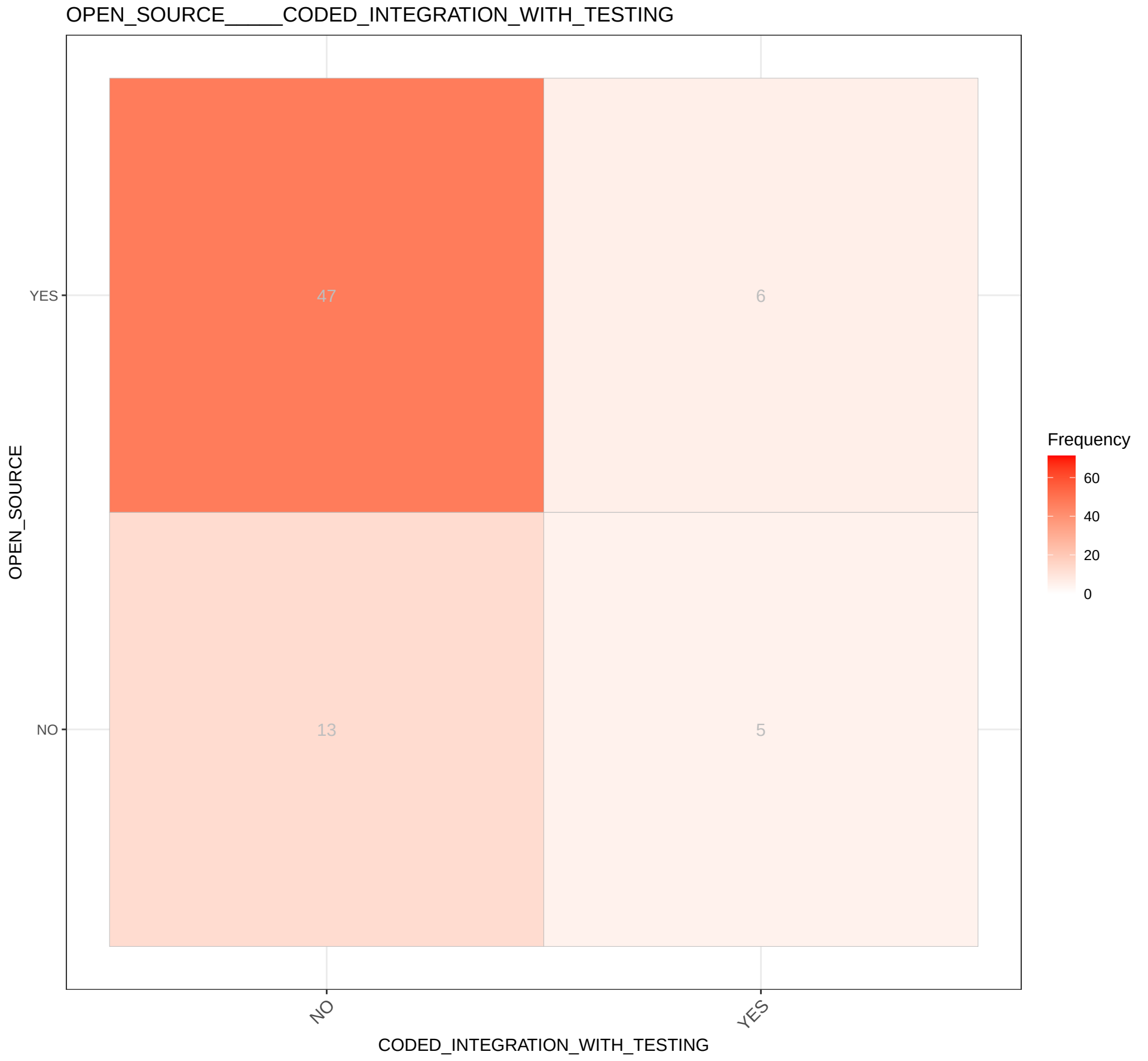

OPEN_SOURCE_____CODED_TARGET_QUALITY_ATTRIBUTE
OPEN_SOURCE
YES
NO
1
2
1
1
46
37
7
1
5
0
1
0
0
17
16
8
6
0
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0

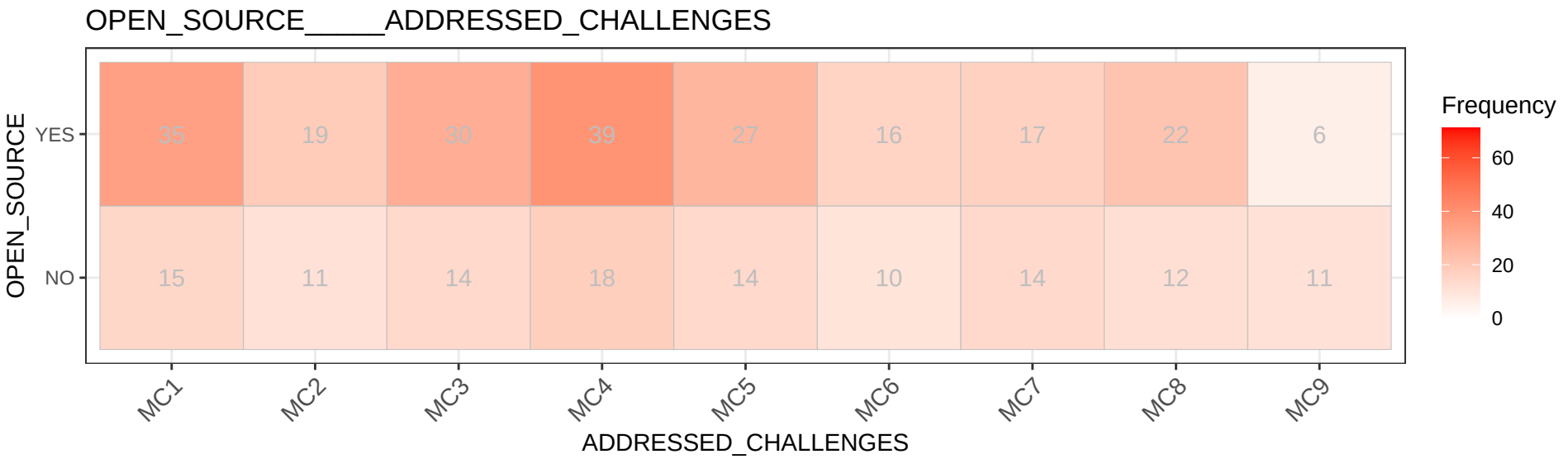

OPEN_SOURCE_____MONITORING_PATTERN
OPEN_SOURCE
YES
NO
31
13
18
14
22
26
13
13
10
11
11
15
Frequency
60
40
20
0
LICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN

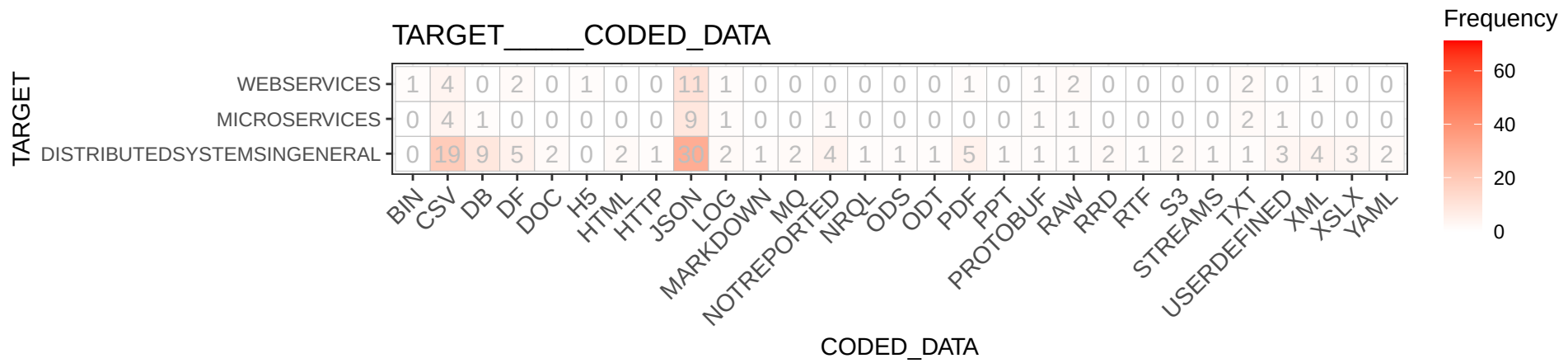

OPEN_SOURCE_____MONITORING_GRANULARITY
YES
NO
OPEN_SOURCE
24
46
20
25
16
16
17
17
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0

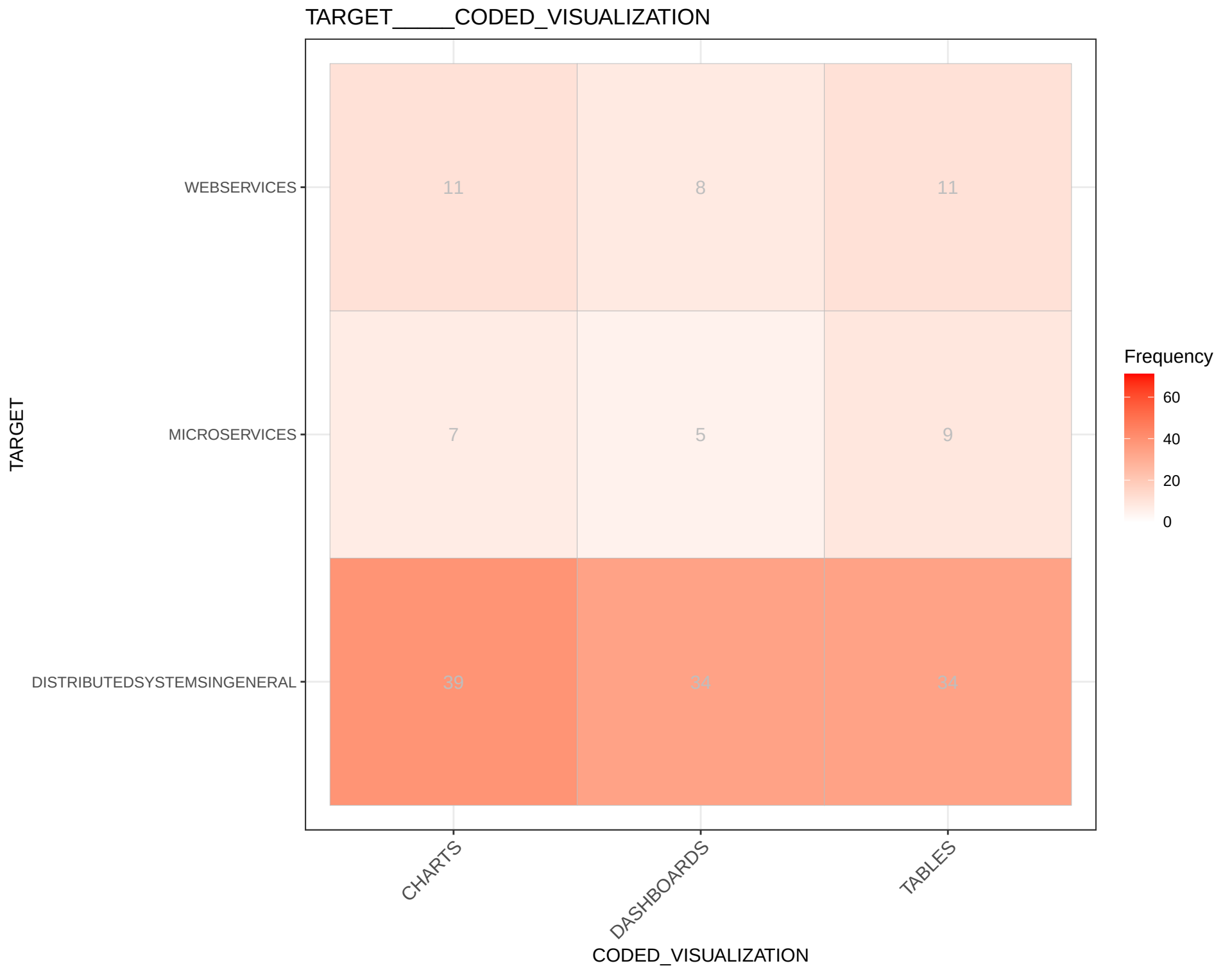

OPEN_SOURCE_____MONITORING_PRACTICES
OPEN_SOURCE
YES
NO
12 1 1 14 3 18 23 1 6 16 5 19
13 0 8 11 0 11 11 0 0 15 1 11
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0

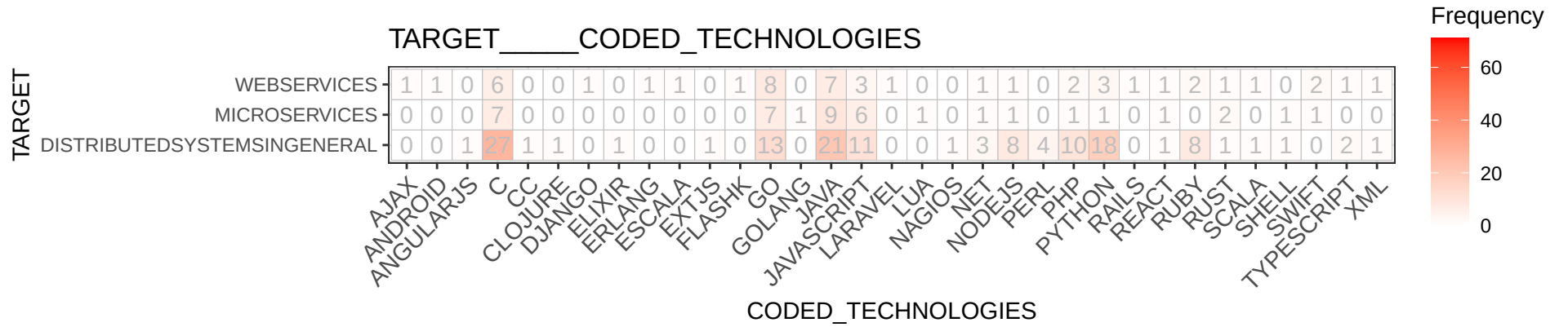

OPEN_SOURCE_____INSTRUMENTATION
OPEN_SOURCE
YES
NO
3
24
24
27
44
0
12
12
11
15
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0

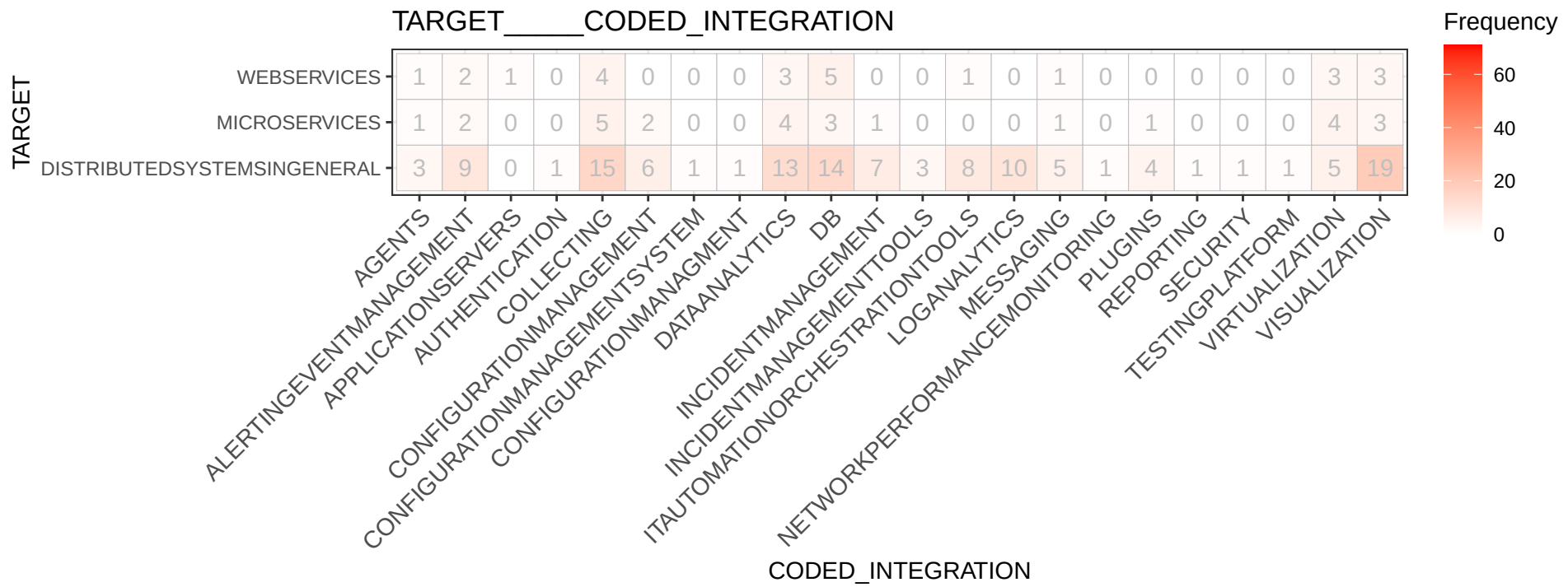

OPEN_SOURCE_____CODED_INTEGRATION_WITH_TESTING
YES
NO
47
6
13
5
OPEN_SOURCE
NO
YES
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0

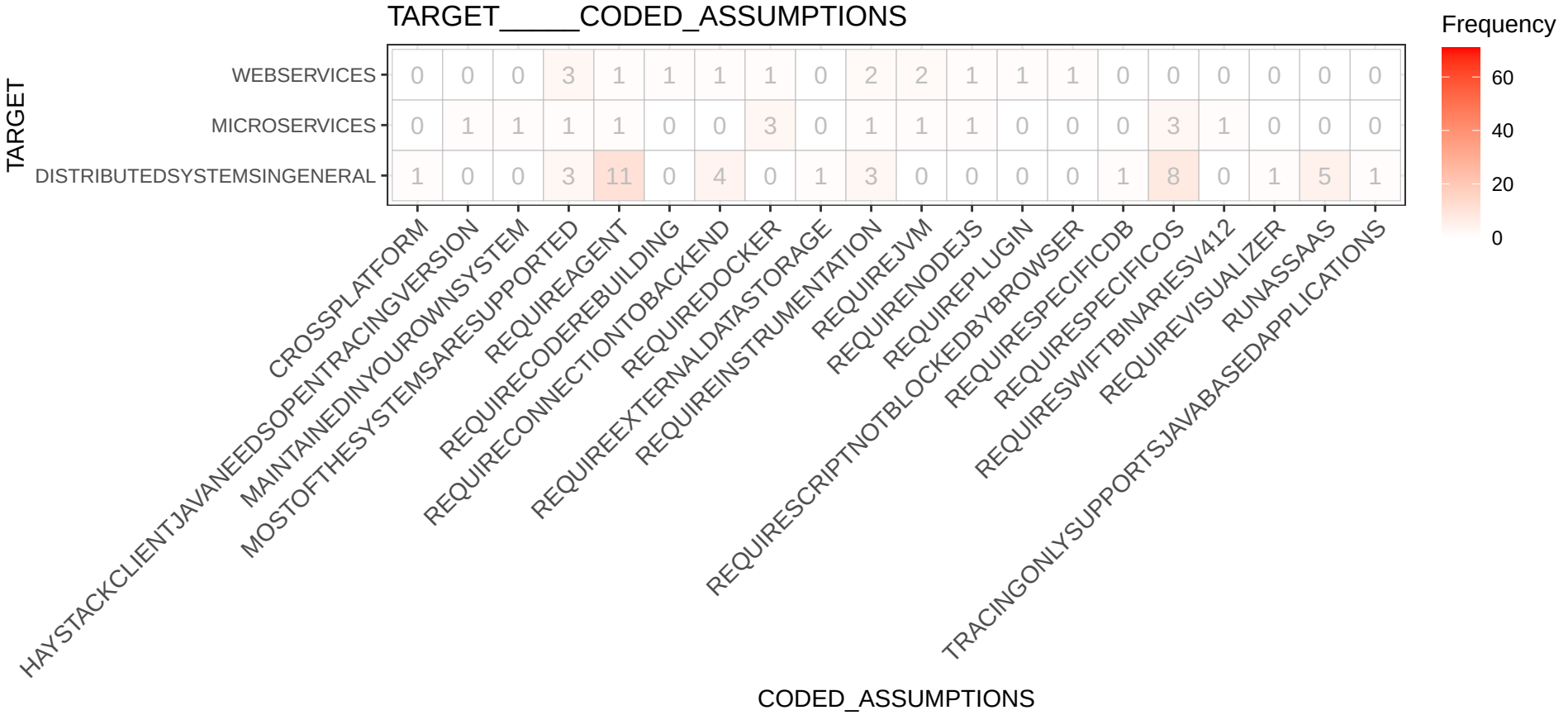

OPEN_SOURCE_____ADDRESSED_CHALLENGES
OPEN_SOURCE
YES
NO
35
19
30
39
27
16
17
22
6
15
11
14
18
14
10
14
12
11
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0

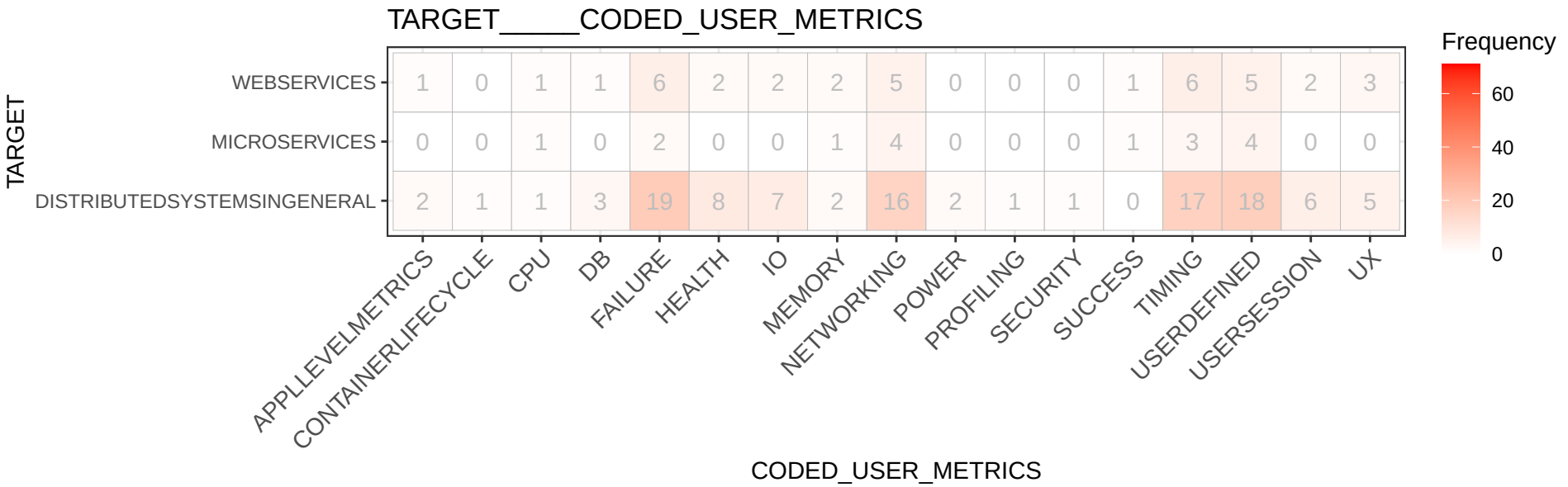

TARGET_____CODED_DATA
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
1 4 0 2 0 1 0 0 11 1 0 0 0 0 0 0 1 0 1 2 0 0 0 0 2 0 1 0 0
0 4 1 0 0 0 0 0 9 1 0 0 1 0 0 0 0 0 1 1 0 0 0 0 2 1 0 0 0
0 19 9 5 2 0 2 1 30 2 1 2 4 1 1 1 5 1 1 1 2 1 2 1 1 3 4 3 2
BIN
CSV
DB
DF
DOC
H5
HTML
HTTP
JSON
LOG
MARKDOWN
MQ
NOTREPORTED
NRQL
ODS
ODT
PDF
PPT
PROTOBUF
RAW
RRD
RTF
S3
STREAMS
TXT
USERDEFINED
XML
XSLX
YAML
CODED_DATA
Frequency
60
40
20
0

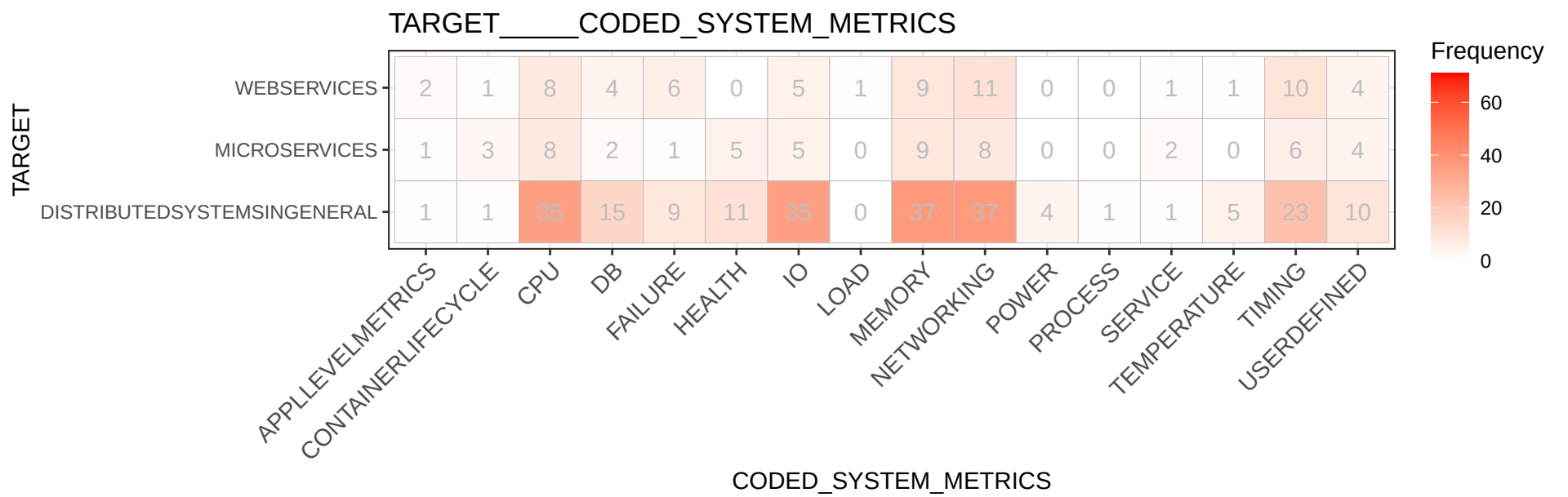

TARGET_____CODED_VISUALIZATION
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
TARGET
11
8
11
7
5
9
39
34
34
CHARTS
DASHBOARDS
TABLES
CODED_VISUALIZATION
Frequency
60
40
20
0

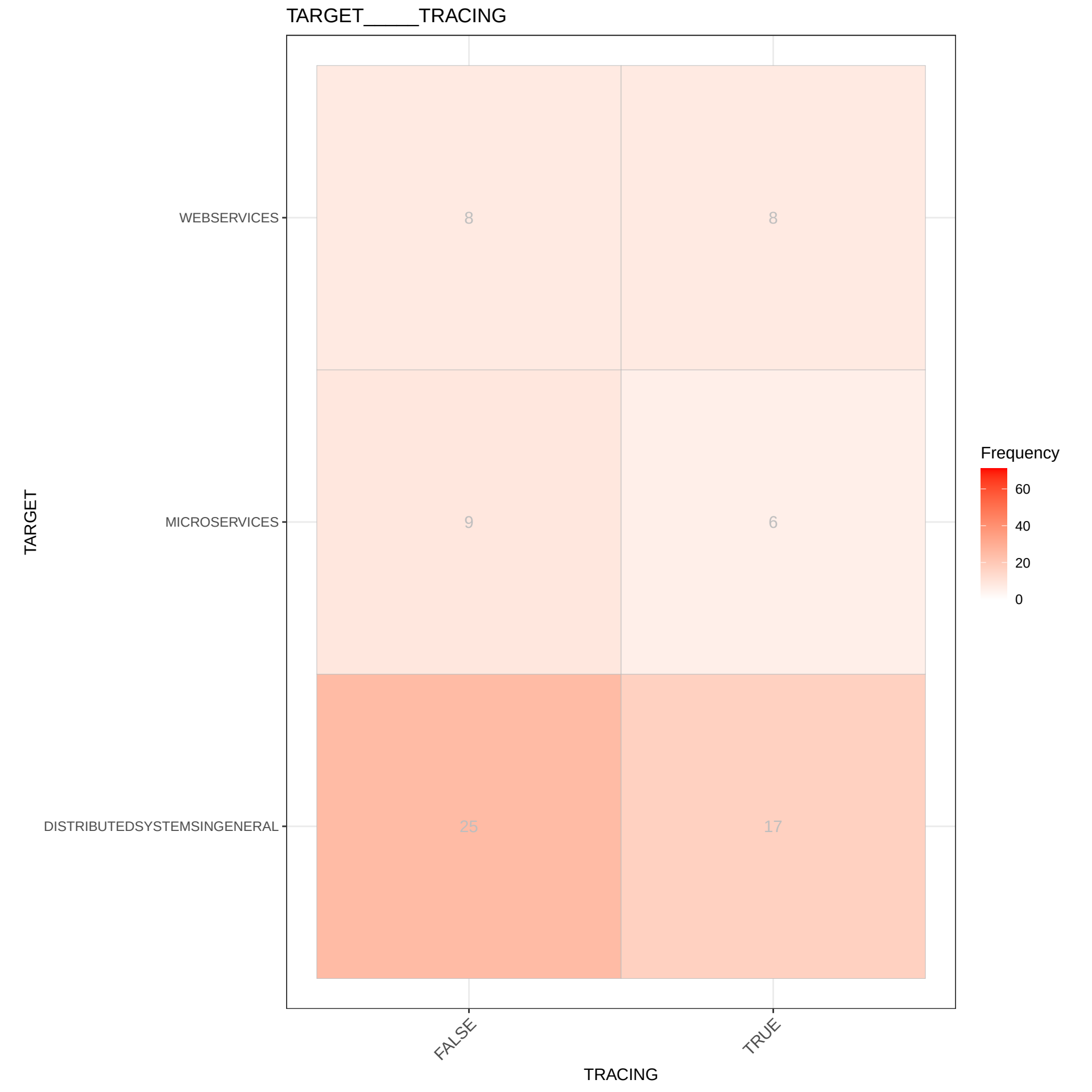

TARGET_____CODED_TECHNOLOGIES
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
1 1 0 6 0 0 1 0 1 1 0 1 8 0 7 3 1 0 0 1 1 0 2 3 1 1 2 1 1 0 2 1 1
0 0 0 7 0 0 0 0 0 0 0 0 7 1 9 6 0 1 0 1 1 0 1 1 0 1 0 2 0 1 1 0 0
0 0 1 27 1 1 0 1 0 0 1 0 13 0 21 11 0 0 1 3 8 4 10 18 0 1 8 1 1 1 0 2 1
AJAX
ANDROID
ANGULARJS
C
CC
CLOJURE
DJANGO
ELIXIR
ERLANG
ESCALA
EXTJS
FLASHK
GO
GOLANG
JAVA
JAVASCRIPT
LARAVEL
LUA
NAGIOS
NET
NODEJS
PERL
PHP
PYTHON
RAILS
REACT
RUBY
RUST
SCALA
SHELL
SWIFT
TYPESCRIPT
XML
CODED_TECHNOLOGIES
Frequency
60
40
20
0

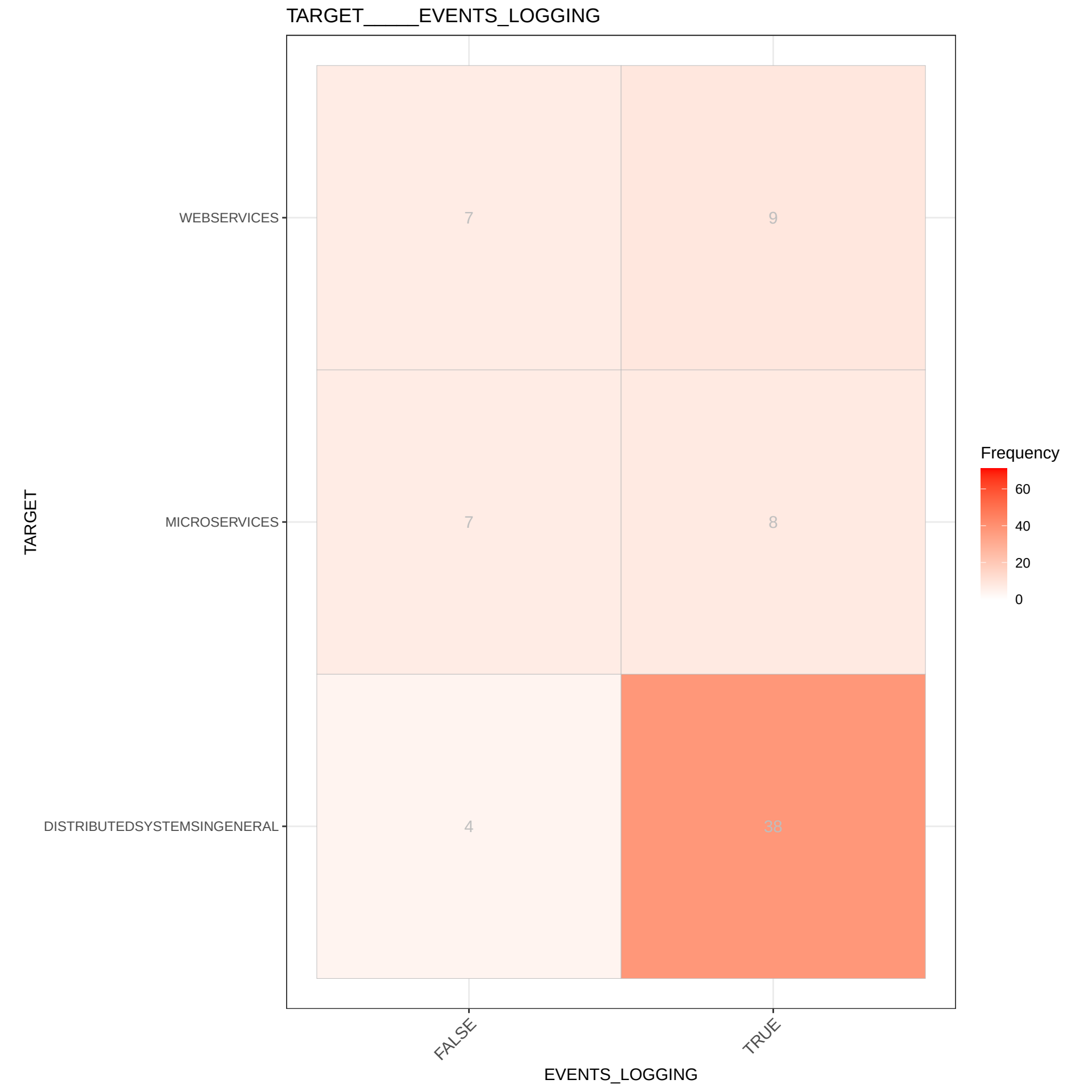

TARGET_____CODED_INTEGRATION
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
1 2 1 0 4 0 0 0 3 5 0 0 1 0 1 0 0 0 0 0 3 3
1 2 0 0 5 2 0 0 4 3 1 0 0 0 1 0 1 0 0 0 4 3
3 9 0 1 15 6 1 1 13 14 7 3 8 10 5 1 4 1 1 1 5 19
AGENTS
ALERTINGEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
40
20
0

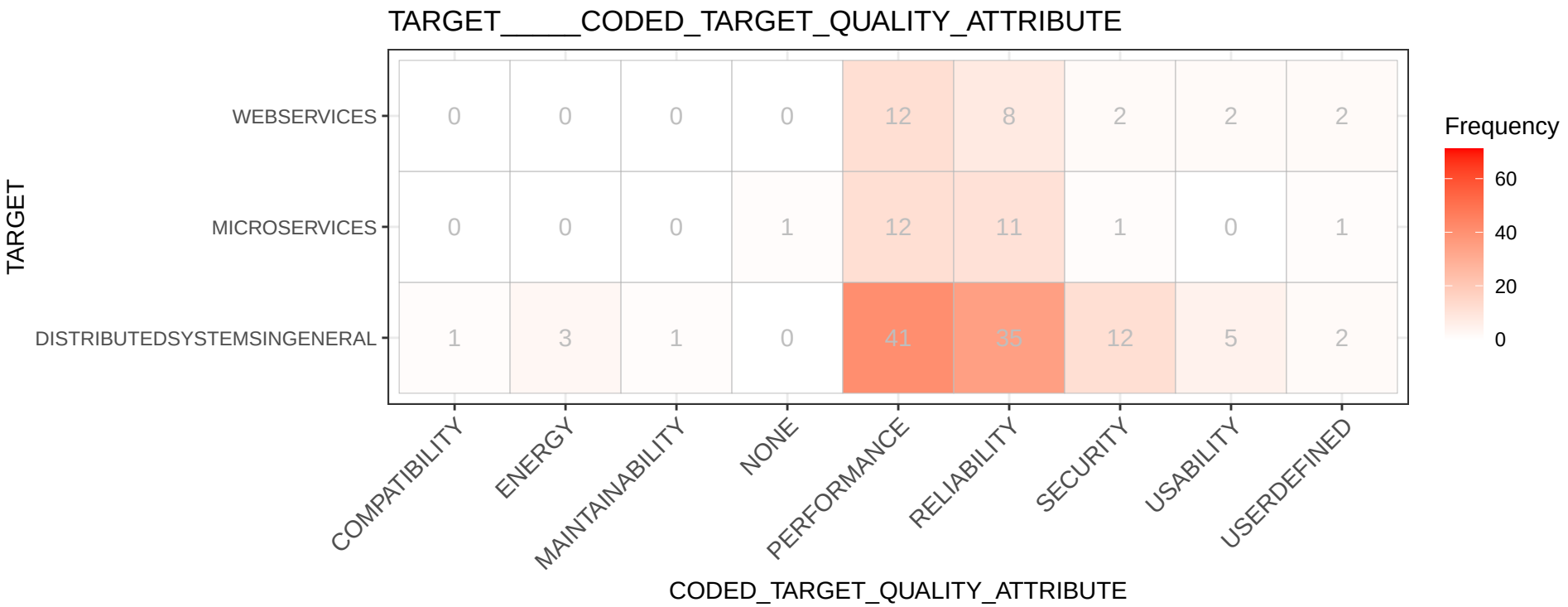

TARGET_____CODED_ASSUMPTIONS
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
0 0 0 3 1 1 1 1 0 2 2 1 1 1 0 0 0 0 0 0
0 1 1 1 1 0 0 3 0 1 1 1 0 0 0 3 1 0 0 0
1 0 0 3 11 0 4 0 1 3 0 0 0 0 1 8 0 1 5 1
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0

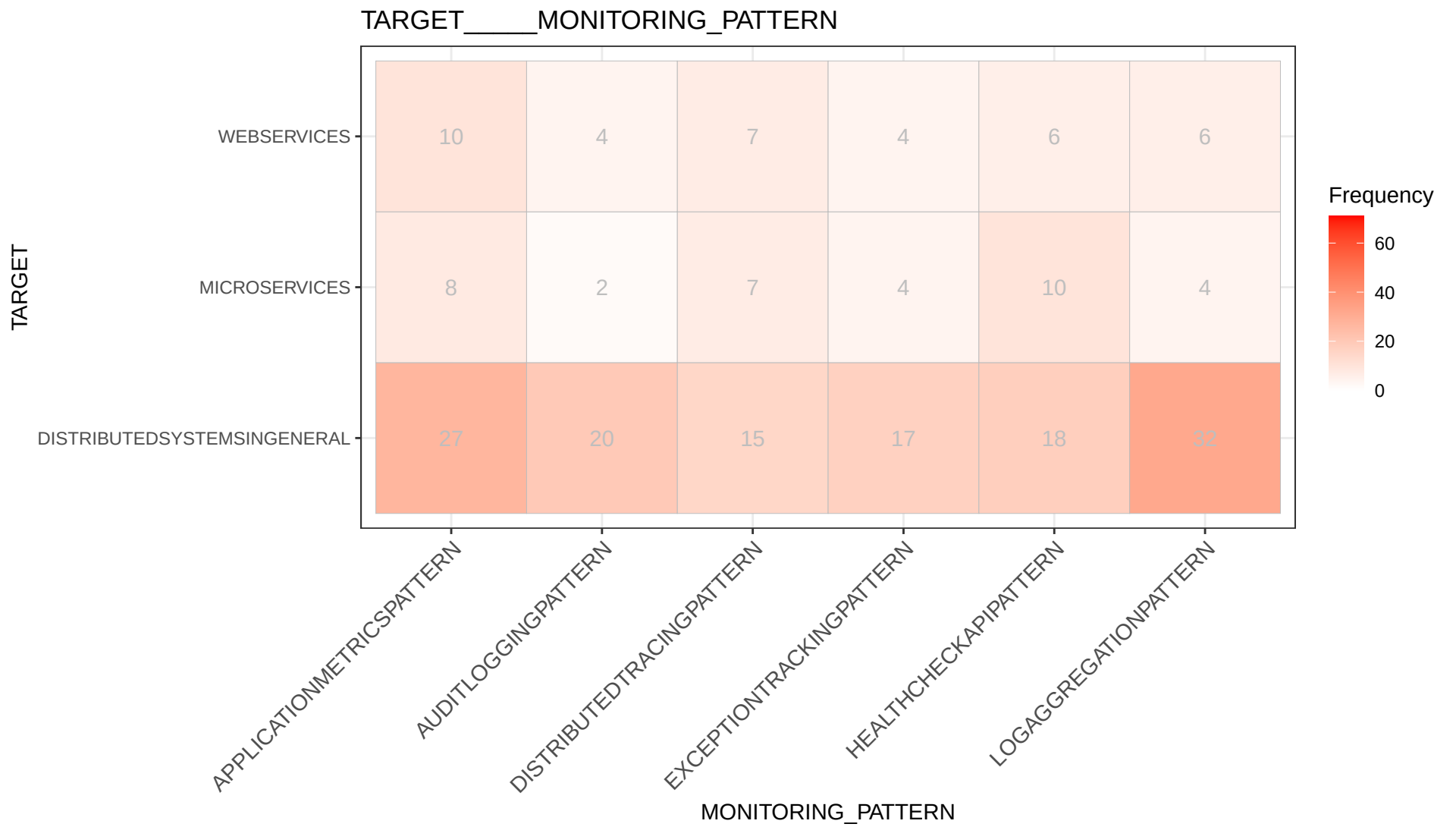

TARGET_____CODED_USER_METRICS
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
1 0 1 1 6 2 2 2 5 0 0 0 1 6 5 2 3
0 0 1 0 2 0 0 1 4 0 0 0 1 3 4 0 0
2 1 1 3 19 8 7 2 16 2 1 1 0 17 18 6 5
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0

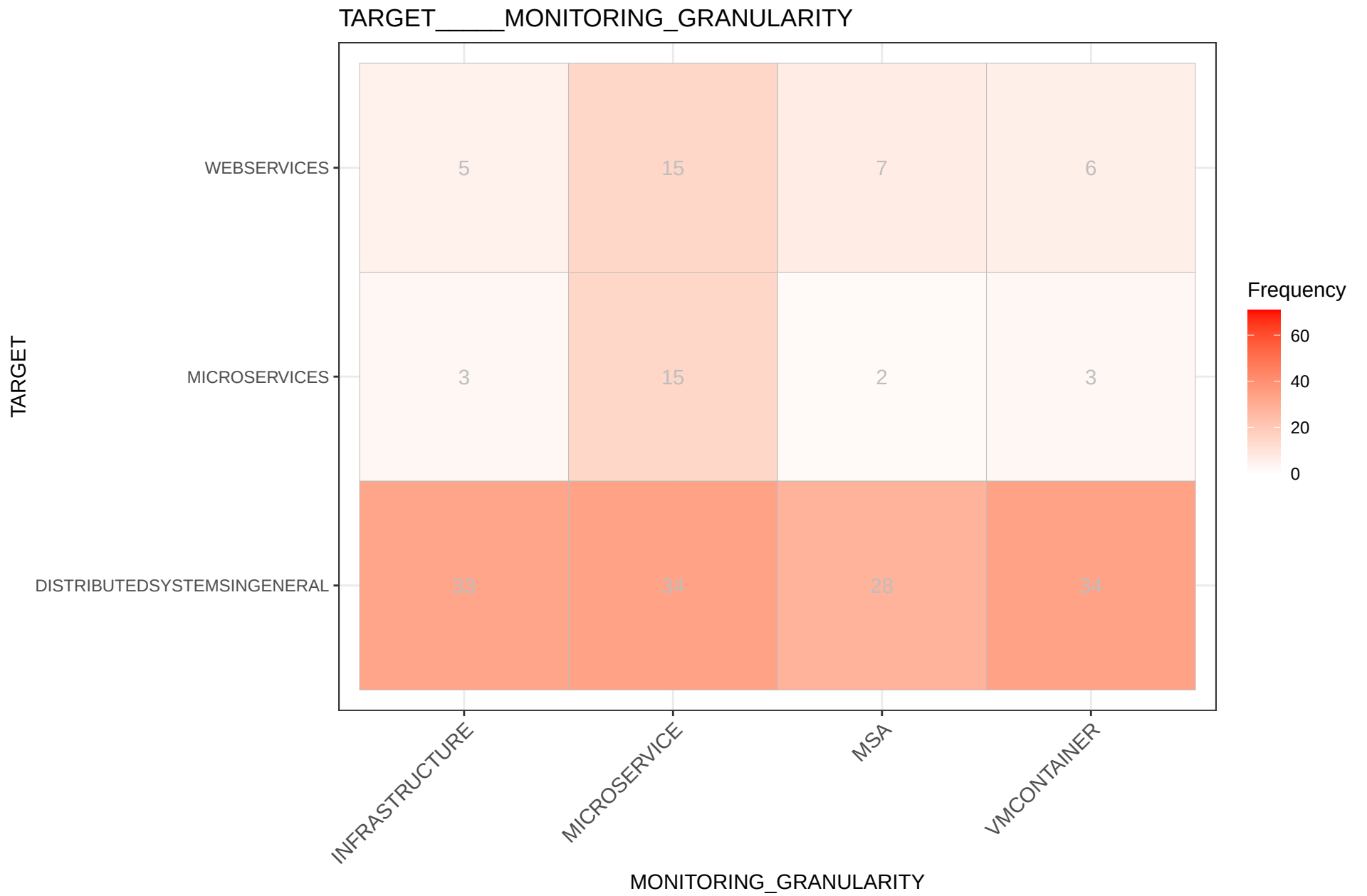

TARGET_____CODED_SYSTEM_METRICS
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
2 1 8 4 6 0 5 1 9 11 0 0 1 1 10 4
1 3 8 2 1 5 5 0 9 8 0 0 2 0 6 4
1 1 35 15 9 11 35 0 37 37 4 1 1 5 23 10
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
0

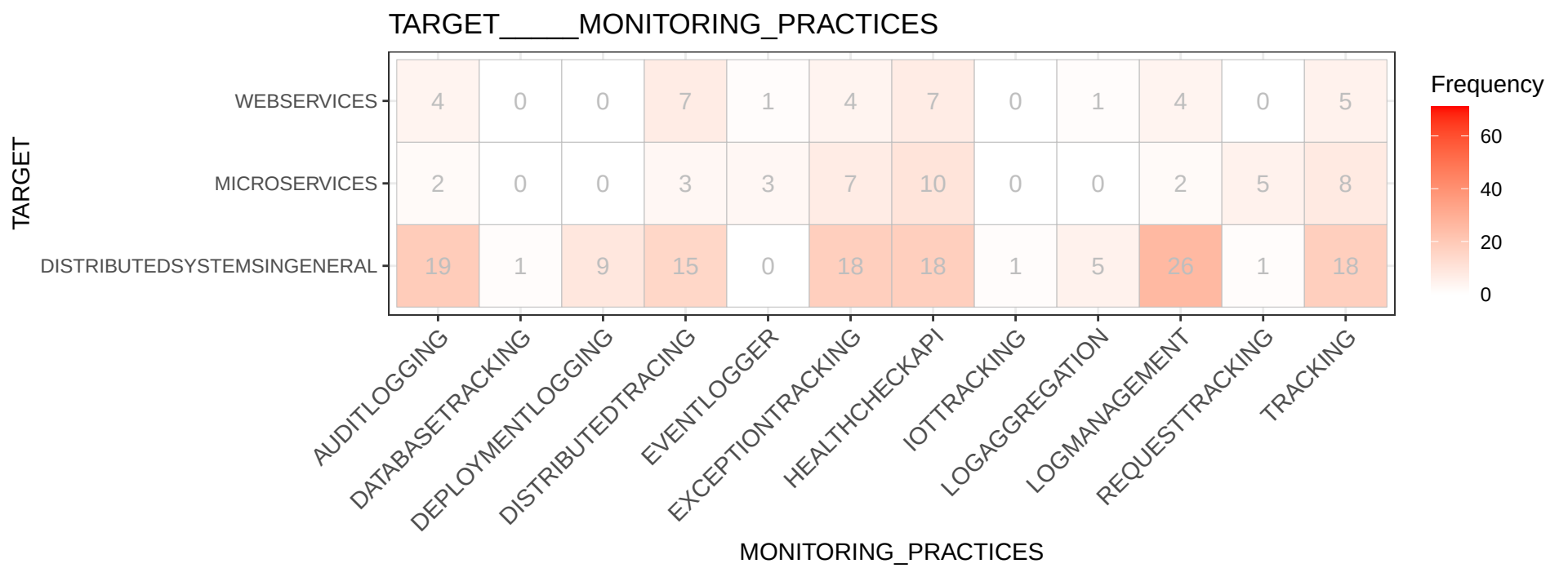

TARGET_____TRACING
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
8
8
9
6
25
17
TARGET
FALSE
TRUE
TRACING
Frequency
60
40
20
0

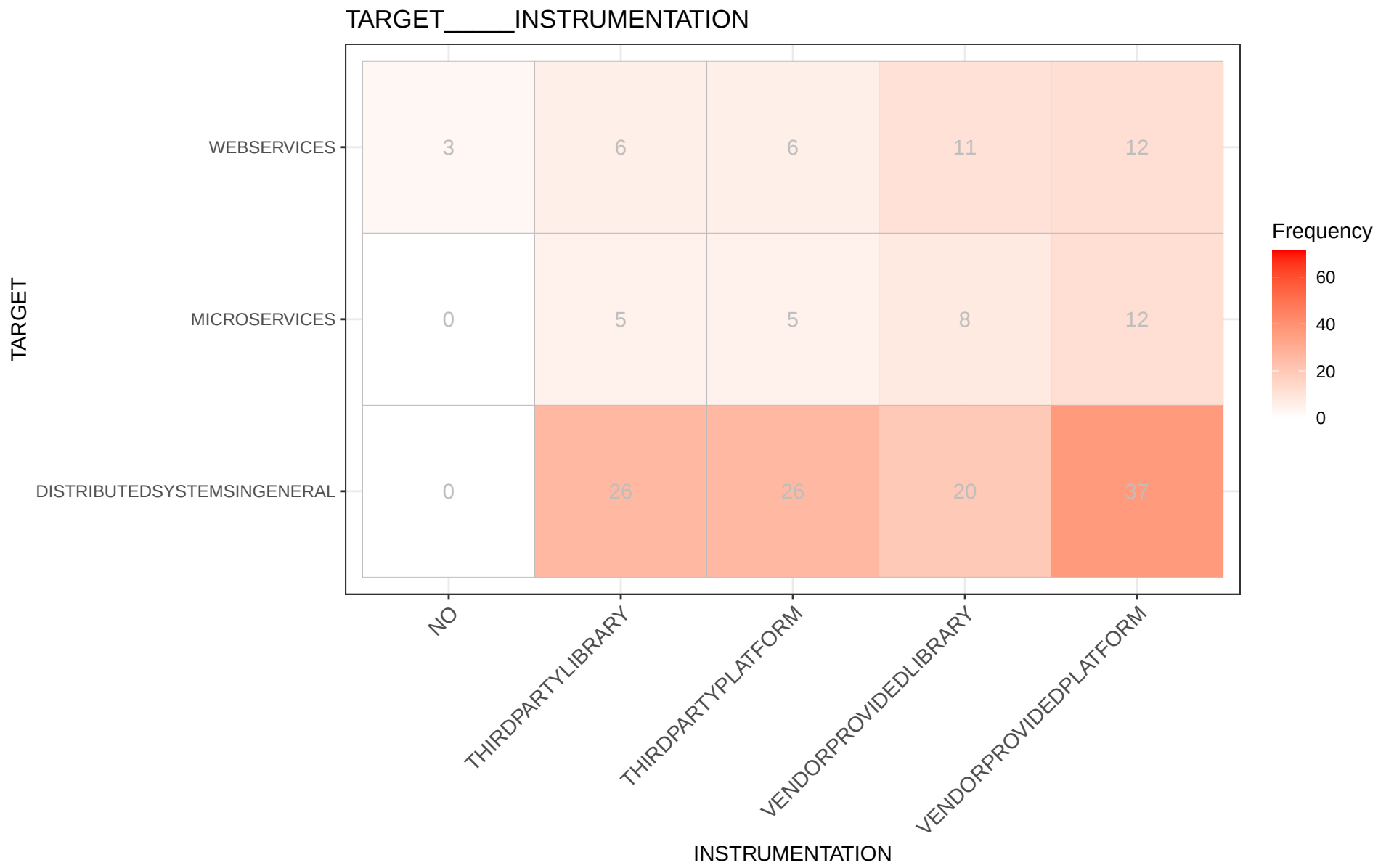

TARGET_____EVENTS_LOGGING
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
TARGET
7
9
7
8
4
38
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0

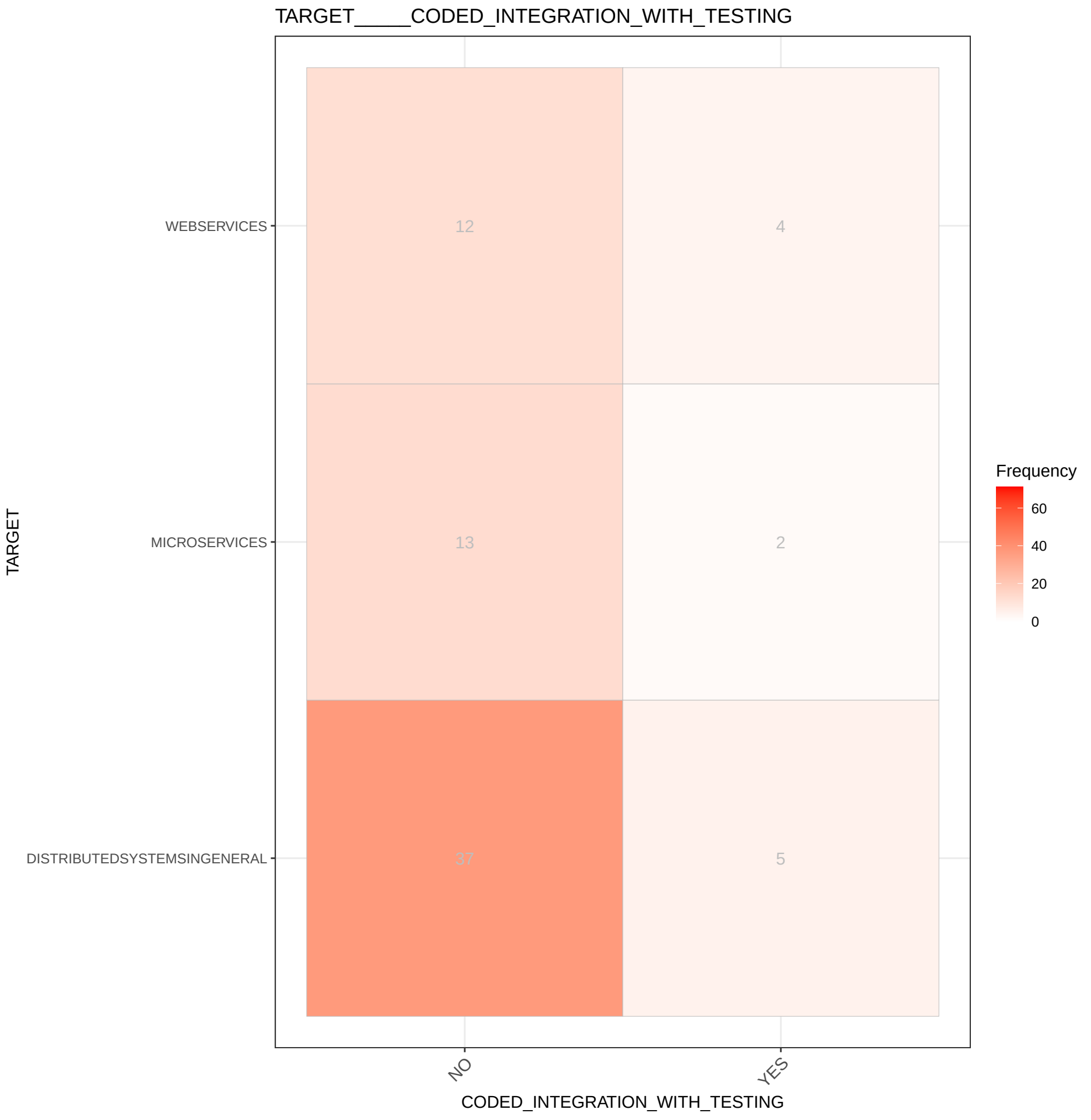

TARGET_____CODED_TARGET_QUALITY_ATTRIBUTE
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
0 0 0 0 12 8 2 2 2
0 0 0 1 12 11 1 0 1
1 3 1 0 41 35 12 5 2
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0

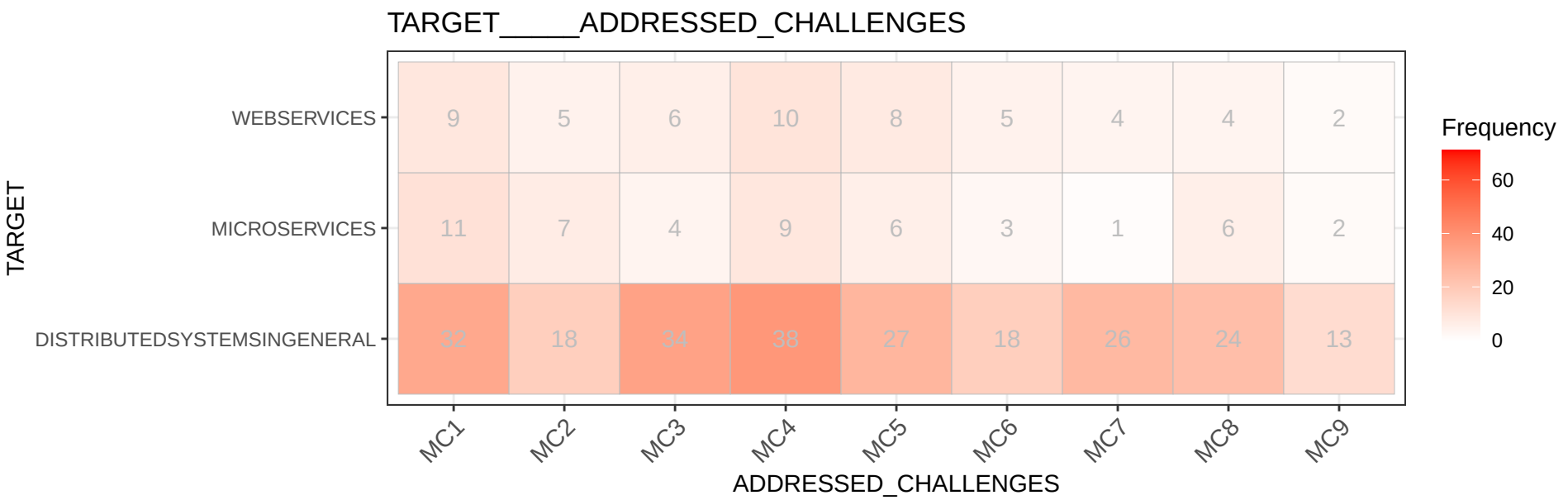

TARGET_____MONITORING_PATTERN
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
TARGET
10
4
7
4
6
6
8
2
7
4
10
4
27
20
15
17
18
32
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
40
20
0

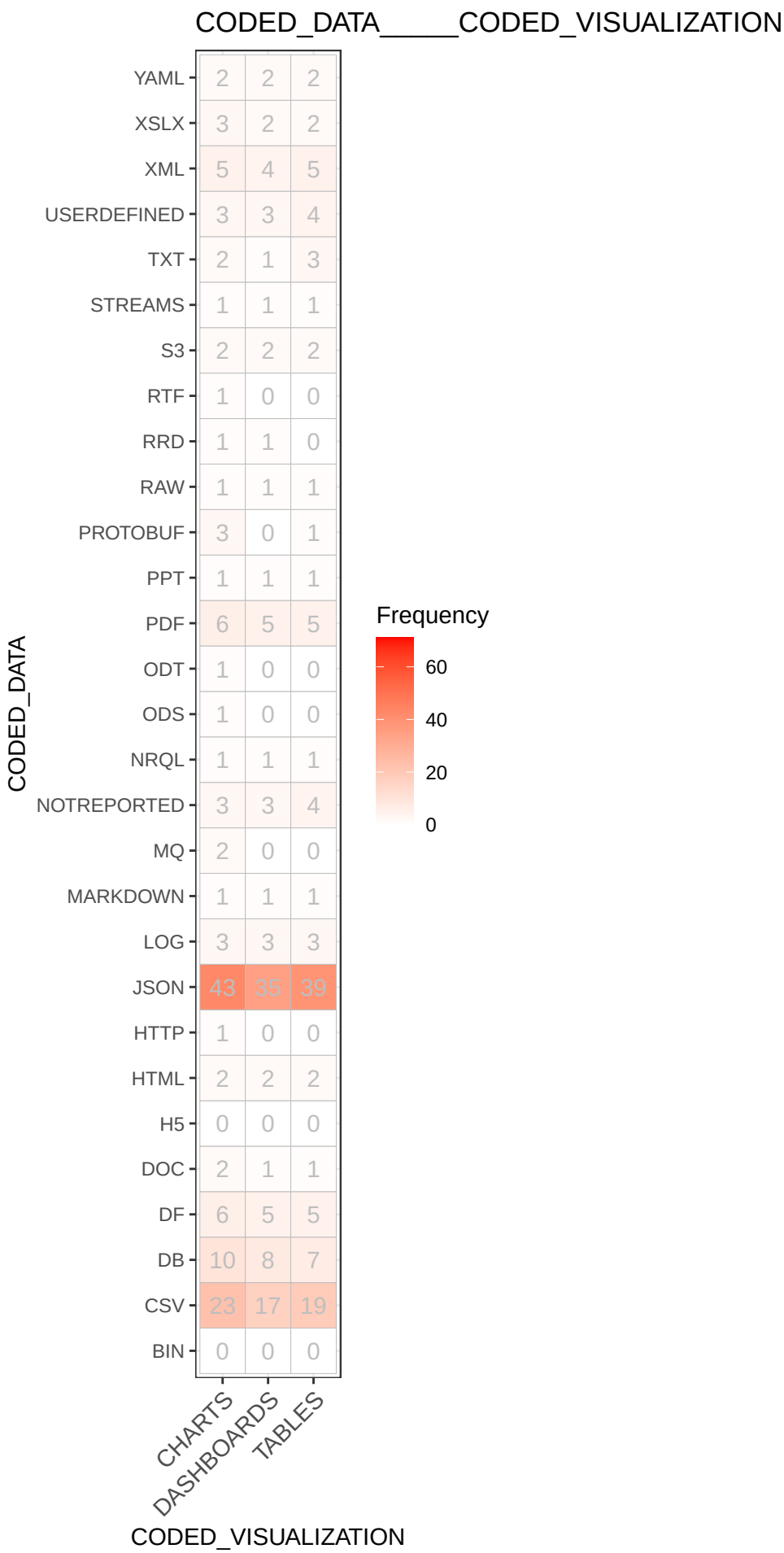

TARGET_____MONITORING_GRANULARITY
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
TARGET
5
15
7
6
3
15
2
3
33
34
28
34
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0

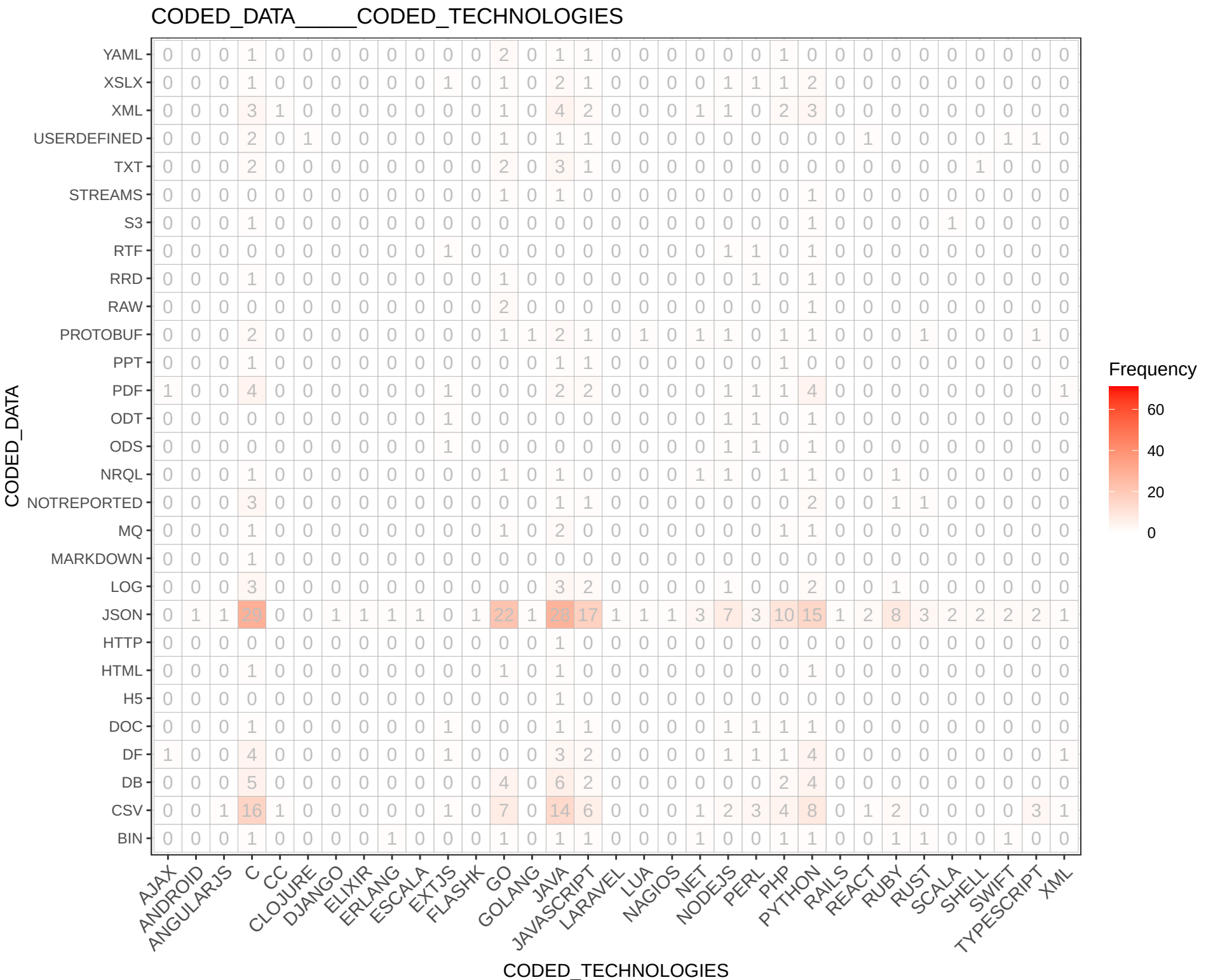

TARGET_____MONITORING_PRACTICES
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
4 0 0 7 1 4 7 0 1 4 0 5
2 0 0 3 3 7 10 0 0 2 5 8
19 1 9 15 0 18 18 1 5 26 1 18
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0

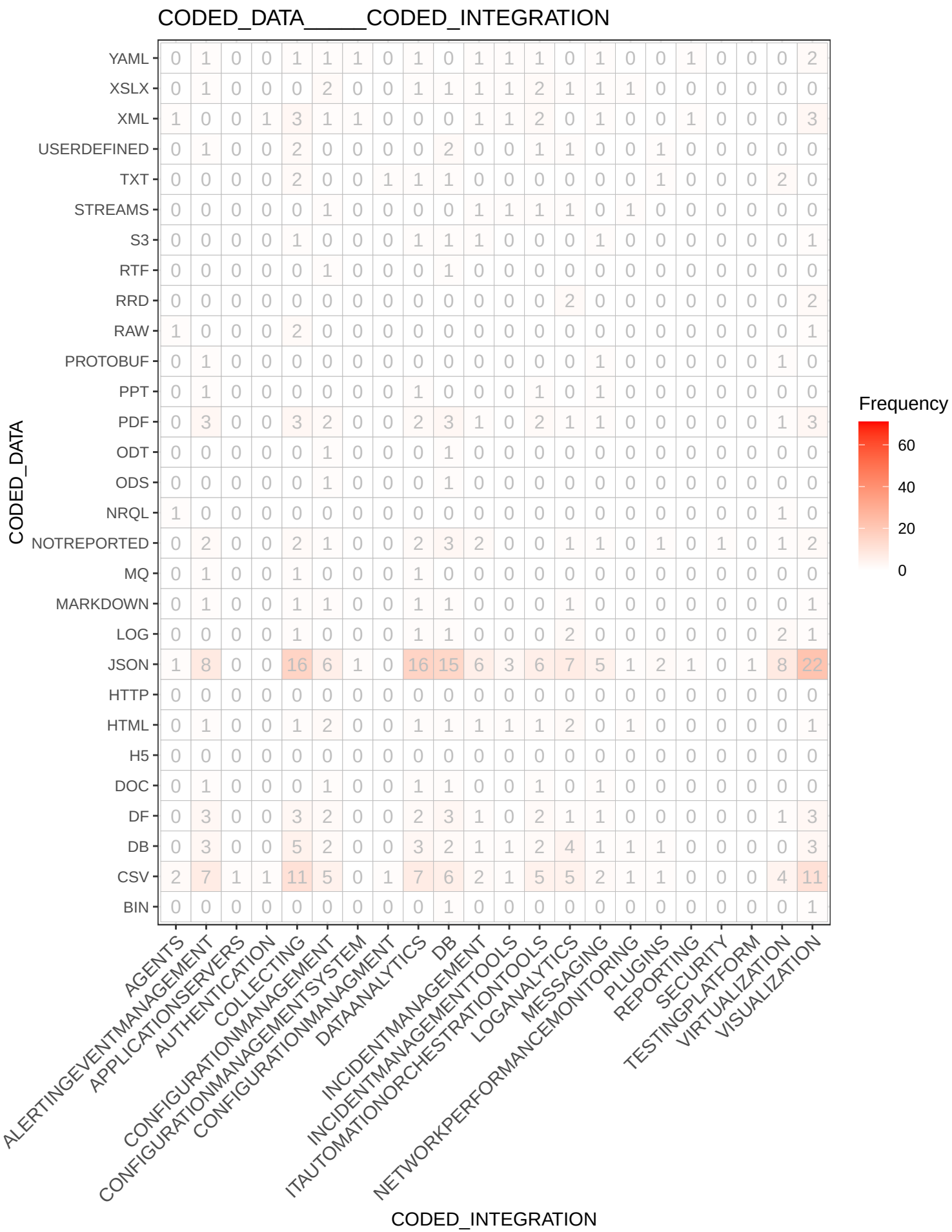

TARGET_____INSTRUMENTATION
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
TARGET
3
6
6
11
12
0
5
5
8
12
0
26
26
20
37
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0

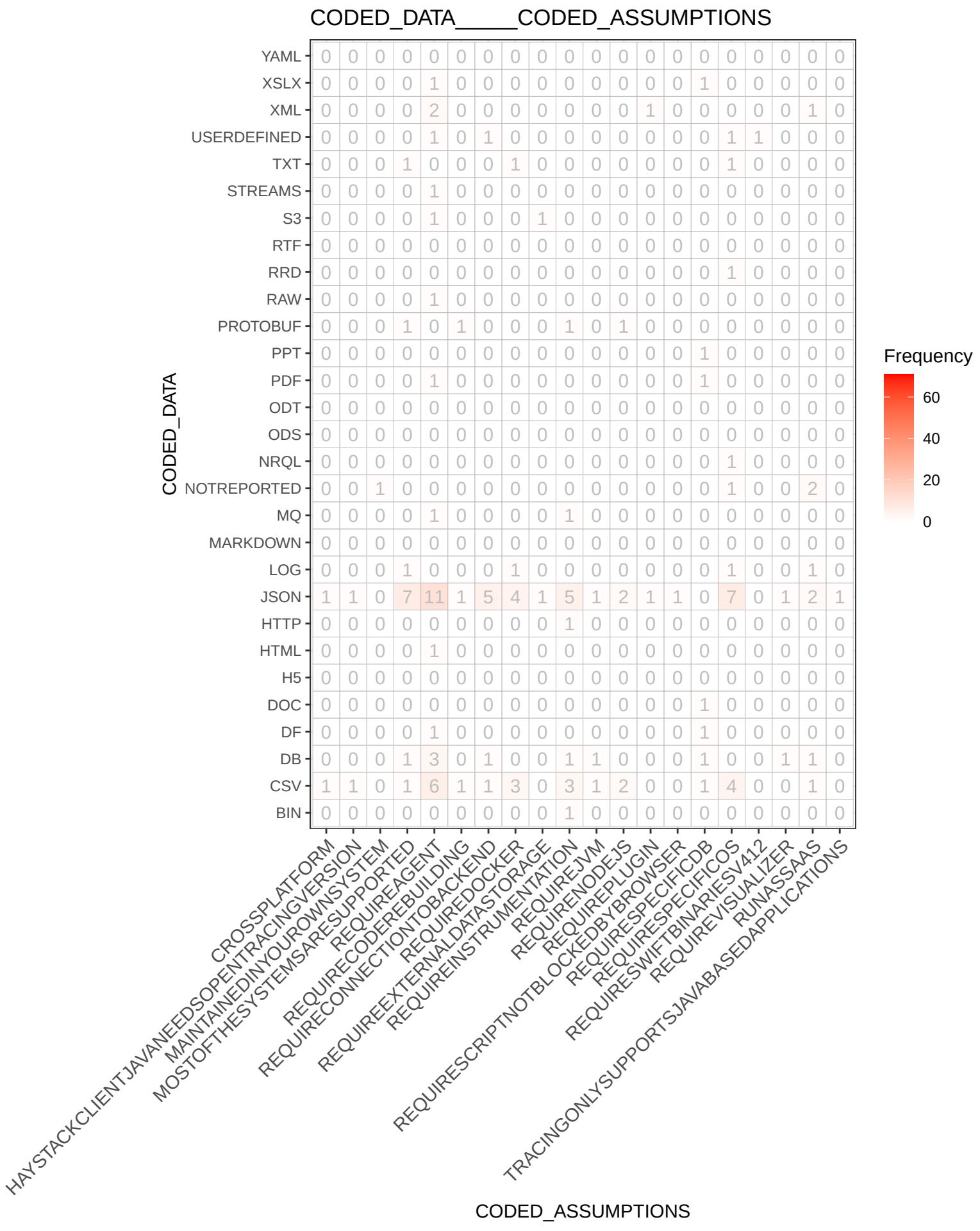

TARGET_____CODED_INTEGRATION_WITH_TESTING
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
12
4
13
2
37
5
NO
YES
CODED_INTEGRATION_WITH_TESTING
TARGET
Frequency
60
40
20
0

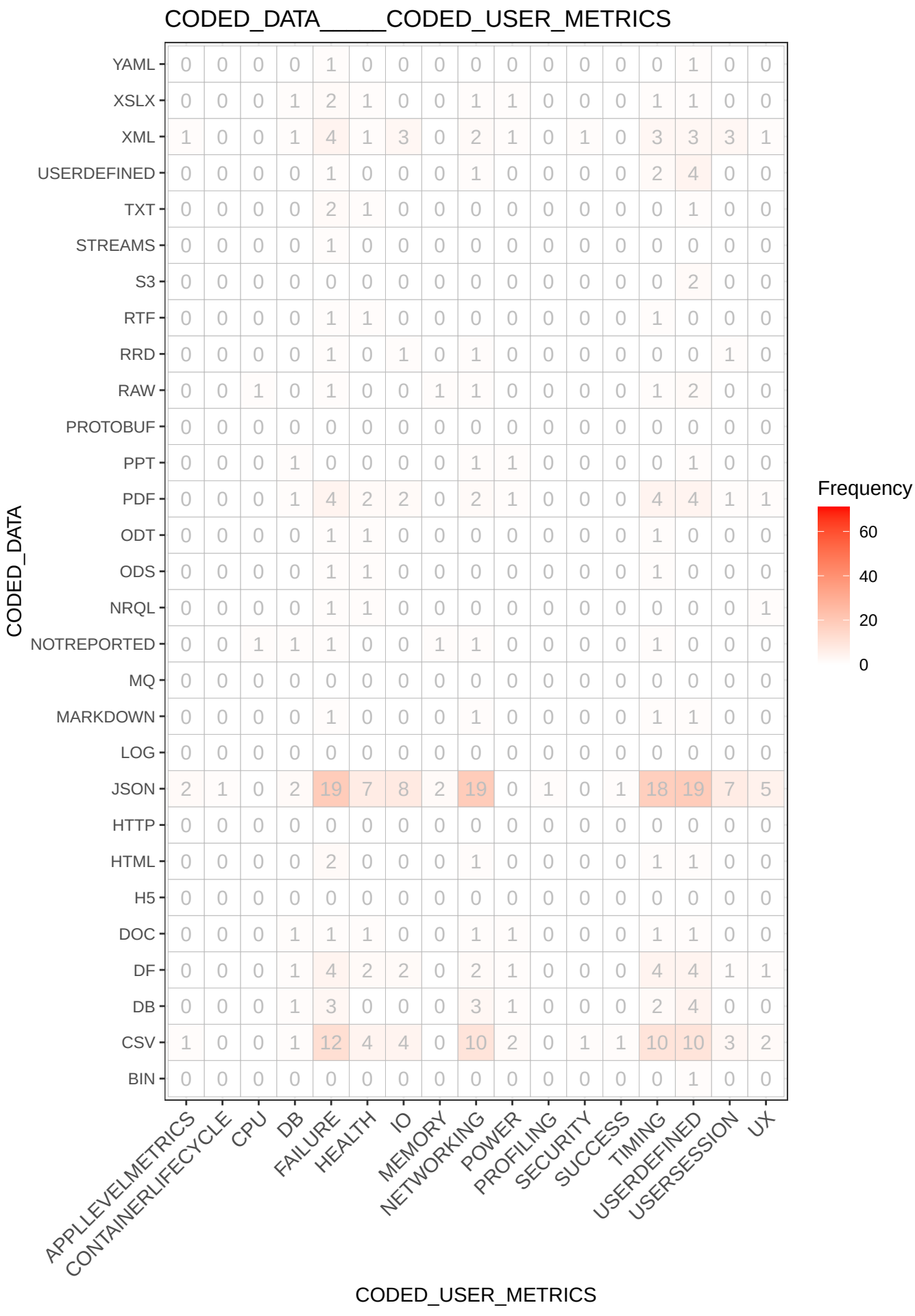

TARGET_____ADDRESSED_CHALLENGES
TARGET
WEBSERVICES
MICROSERVICES
DISTRIBUTEDSYSTEMSINGENERAL
9 5 6 10 8 5 4 4 2
11 7 4 9 6 3 1 6 2
32 18 34 38 27 18 26 24 13
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0

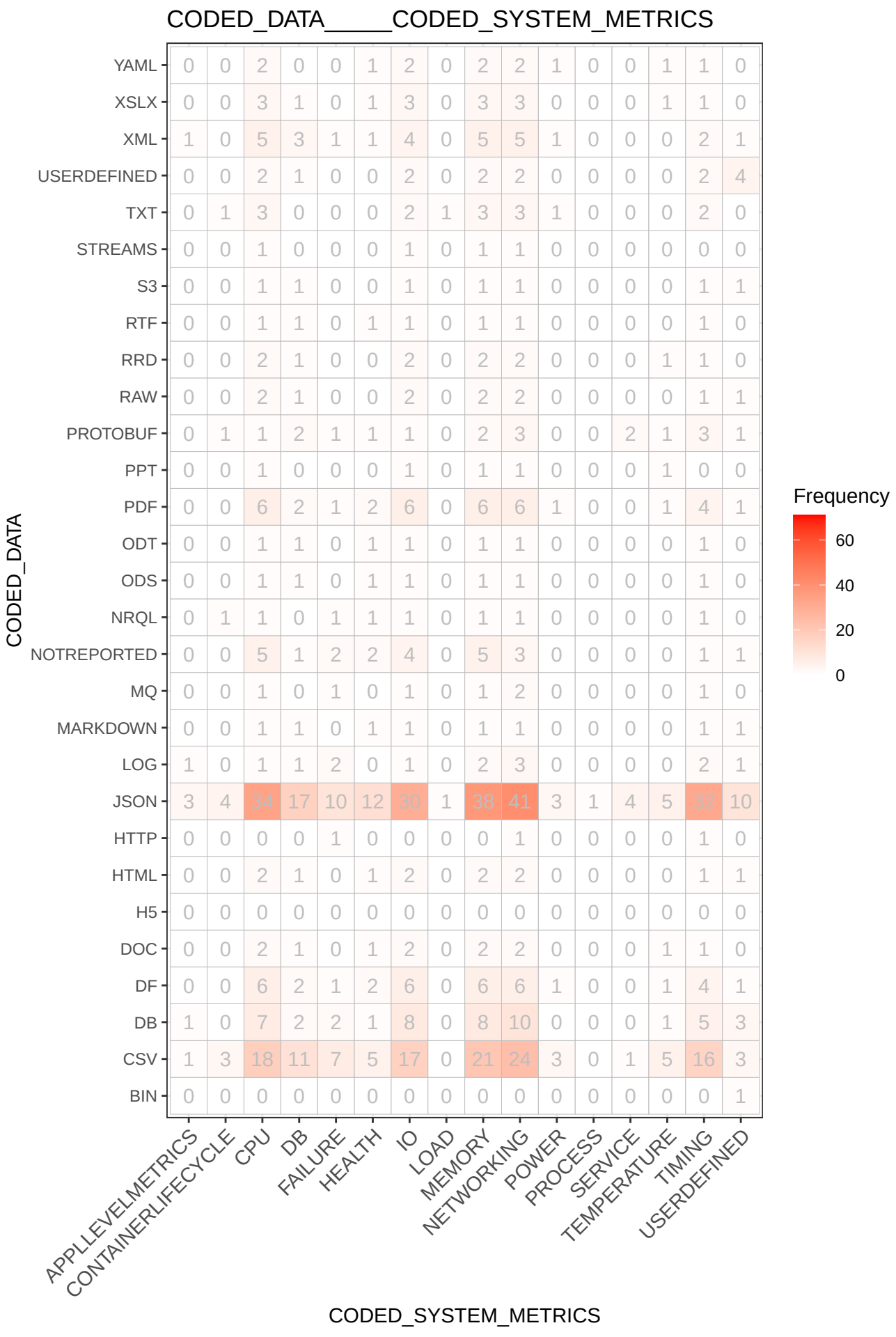

CODED_DATA_____CODED_VISUALIZATION
YAML 2 2 2
XSLX 3 2 2
XML 5 4 5
USERDEFINED 3 3 4
TXT 2 1 3
STREAMS 1 1 1
S3 2 2 2
RTF 1 0 0
RRD 1 1 0
RAW 1 1 1
PROTOBUF 3 0 1
PPT 1 1 1
PDF 6 5 5
ODT 1 0 0
ODS 1 0 0
NRQL 1 1 1
NOTREPORTED 3 3 4
MQ 2 0 0
MARKDOWN 1 1 1
LOG 3 3 3
JSON 43 35 39
HTTP 1 0 0
HTML 2 2 2
H5 0 0 0
DOC 2 1 1
DF 6 5 5
DB 10 8 7
CSV 23 17 19
BIN 0 0 0
CODED_DATA
CHARTS
DASHBOARDS
TABLES
CODED_VISUALIZATION
Frequency
60
40
20
0

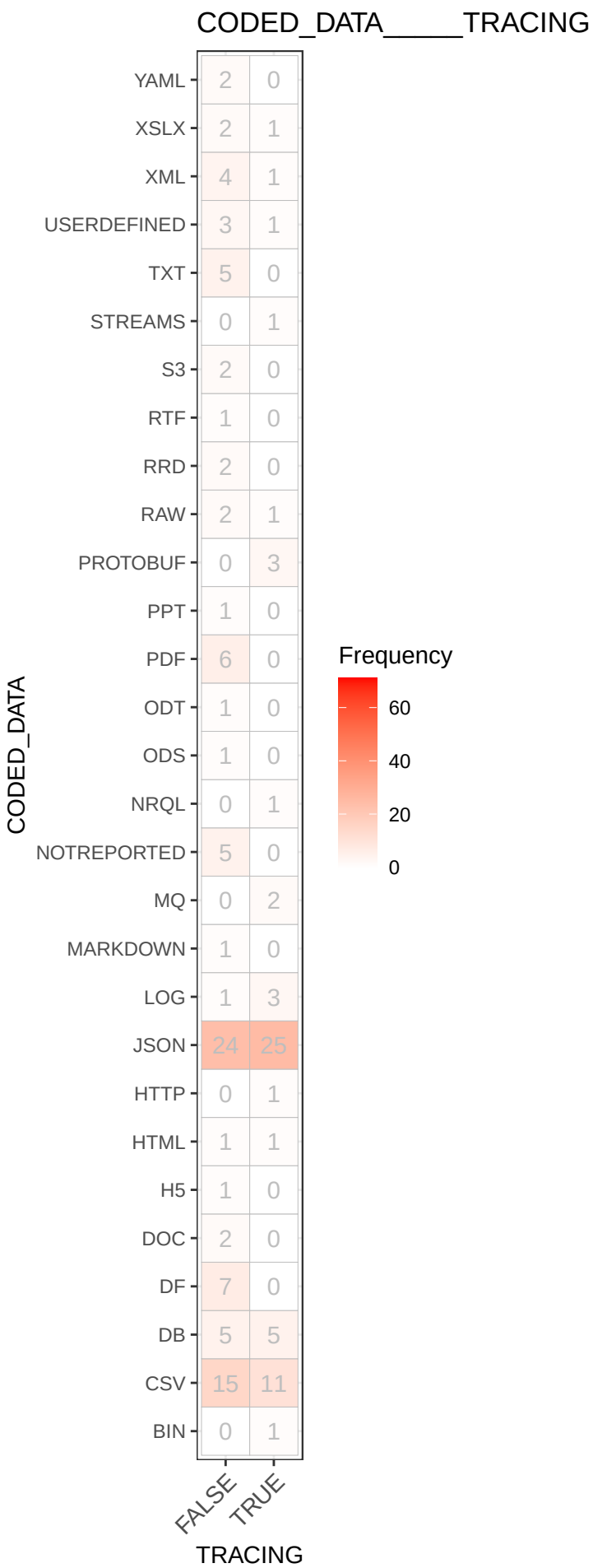

CODED_DATA_____CODED_TECHNOLOGIES
CODED_DATA
YAML 0 0 0 1 0 0 0 0 0 0 0 0 2 0 1 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
XSLX 0 0 0 1 0 0 0 0 0 0 1 0 1 0 2 1 0 0 0 0 1 1 1 2 0 0 0 0 0 0 0 0
XML 0 0 0 3 1 0 0 0 0 0 0 0 1 0 4 2 0 0 0 1 1 0 2 3 0 0 0 0 0 0 0 0
USERDEFINED 0 0 0 2 0 1 0 0 0 0 0 0 1 0 1 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 1
TXT 0 0 0 2 0 0 0 0 0 0 0 0 2 0 3 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
STREAMS 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
S3 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0
RTF 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0
RRD 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0
RAW 0 0 0 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
PROTOBUF 0 0 0 2 0 0 0 0 0 0 0 0 1 1 2 1 0 1 0 1 1 0 1 1 0 0 0 1 0 0 0 1
PPT 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
PDF 1 0 0 4 0 0 0 0 0 0 1 0 0 0 2 2 0 0 0 0 1 1 1 4 0 0 0 0 0 0 0 1
ODT 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0
ODS 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 1 0 1 0 0 0 0 0 0 0 0
NRQL 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 1 1 0 1 1 0 0 1 0 0 0 0 0
NOTREPORTED 0 0 0 3 0 0 0 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 2 0 0 1 1 0 0 0 0
MQ 0 0 0 1 0 0 0 0 0 0 0 0 1 0 2 0 0 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0
MARKDOWN 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LOG 0 0 0 3 0 0 0 0 0 0 0 0 0 0 3 2 0 0 0 0 1 0 0 2 0 0 1 0 0 0 0 0
JSON 0 1 1 29 0 0 1 1 1 1 0 1 22 1 28 17 1 1 1 3 7 3 10 15 1 2 8 3 2 2 2 2 1
HTTP 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HTML 0 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0
H5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DOC 0 0 0 1 0 0 0 0 0 0 1 0 0 0 1 1 0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 0
DF 1 0 0 4 0 0 0 0 0 0 1 0 0 0 3 2 0 0 0 0 1 1 1 4 0 0 0 0 0 0 0 1
DB 0 0 0 5 0 0 0 0 0 0 0 0 4 0 6 2 0 0 0 0 0 0 2 4 0 0 0 0 0 0 0 0
CSV 0 0 1 16 1 0 0 0 0 0 1 0 7 0 14 6 0 0 0 1 2 3 4 8 0 1 2 0 0 0 0 3 1
BIN 0 0 0 1 0 0 0 0 1 0 0 0 1 0 1 1 0 0 0 1 0 0 1 1 0 0 1 1 0 0 1 0 0
AJAX
ANDROID
ANGULARJS
C
CC
CLOJURE
DJANGO
ELIXIR
ERLANG
ESCALA
EXTJS
FLASHK
GO
GOLANG
JAVA
JAVASCRIPT
LARAVEL
LUA
NAGIOS
NET
NODEJS
PERL
PHP
PYTHON
RAILS
REACT
RUBY
RUST
SCALA
SHELL
SWIFT
TYPESCRIPT
XML
CODED_TECHNOLOGIES
Frequency
60
40
20
0

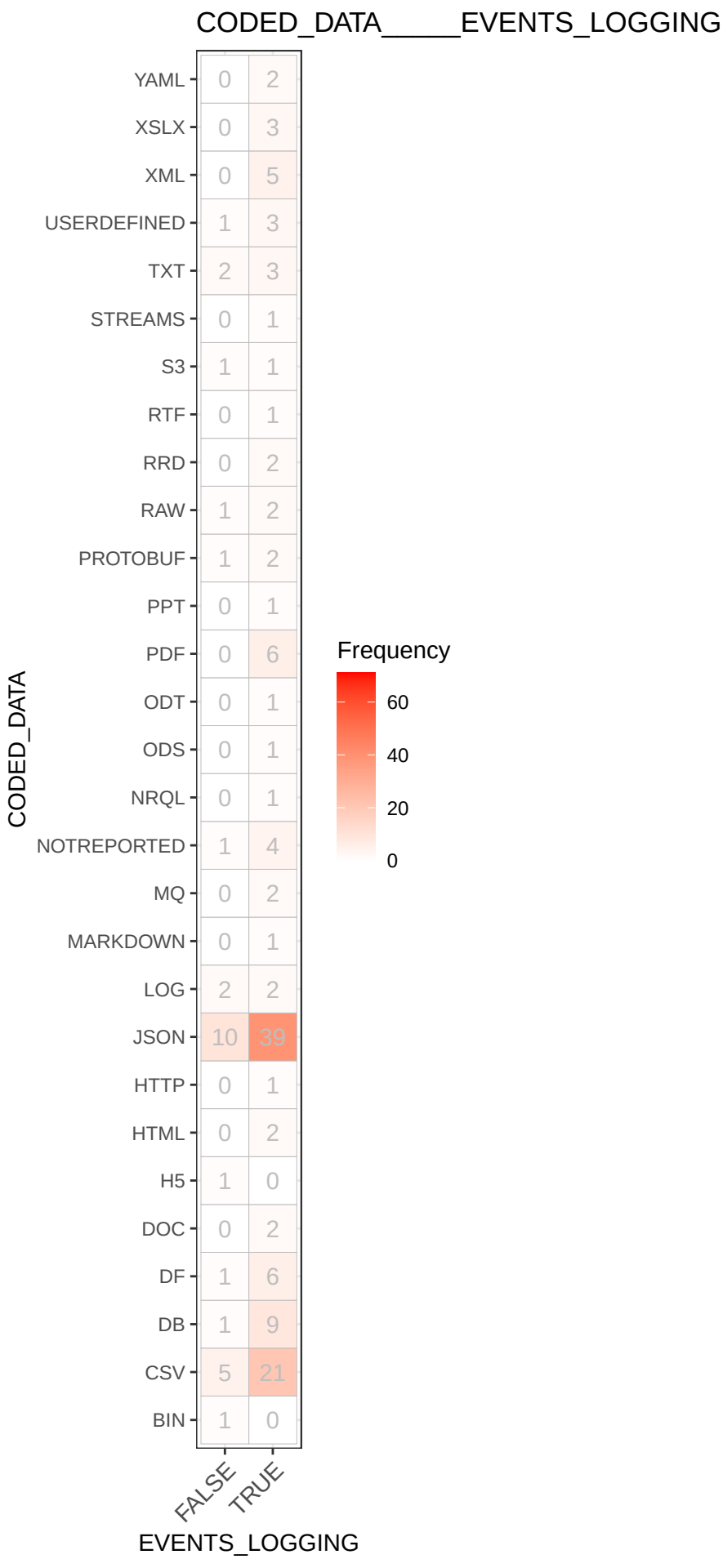

CODED_DATA_____CODED_INTEGRATION
CODED_DATA
YAML 0 1 0 0 1 1 1 0 1 0 1 1 1 0 1 0 0 1 0 0 0 2
XSLX 0 1 0 0 0 2 0 0 1 1 1 1 2 1 1 1 0 0 0 0 0 0
XML 1 0 0 1 3 1 1 0 0 0 1 1 2 0 1 0 0 1 0 0 0 3
USERDEFINED 0 1 0 0 2 0 0 0 0 2 0 0 1 1 0 0 1 0 0 0 0 0
TXT 0 0 0 0 2 0 0 1 1 1 0 0 0 0 0 0 1 0 0 0 2 0
STREAMS 0 0 0 0 0 1 0 0 0 0 1 1 1 1 0 1 0 0 0 0 0 0
S3 0 0 0 0 1 0 0 0 1 1 1 0 0 0 1 0 0 0 0 0 0 1
RTF 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
RRD 0 0 0 0 0 0 0 0 0 0 0 0 0 2 0 0 0 0 0 0 0 2
RAW 1 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
PROTOBUF 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0
PPT 0 1 0 0 0 0 0 0 1 0 0 0 1 0 1 0 0 0 0 0 0 0
PDF 0 3 0 0 3 2 0 0 2 3 1 0 2 1 1 0 0 0 0 0 1 3
ODT 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
ODS 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
NRQL 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
NOTREPORTED 0 2 0 0 2 1 0 0 2 3 2 0 0 1 1 0 1 0 1 0 1 2
MQ 0 1 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0
MARKDOWN 0 1 0 0 1 1 0 0 1 1 0 0 0 1 0 0 0 0 0 0 0 1
LOG 0 0 0 0 1 0 0 0 1 1 0 0 0 2 0 0 0 0 0 0 2 1
JSON 1 8 0 0 16 6 1 0 16 15 6 3 6 7 5 1 2 1 0 1 8 22
HTTP 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HTML 0 1 0 0 1 2 0 0 1 1 1 1 1 2 0 1 0 0 0 0 0 1
H5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DOC 0 1 0 0 0 1 0 0 1 1 0 0 1 0 1 0 0 0 0 0 0 0
DF 0 3 0 0 3 2 0 0 2 3 1 0 2 1 1 0 0 0 0 0 1 3
DB 0 3 0 0 5 2 0 0 3 2 1 1 2 4 1 1 1 0 0 0 0 3
CSV 2 7 1 1 11 5 0 1 7 6 2 1 5 5 2 1 1 0 0 0 4 11
BIN 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1
AGENTS
ALERTINGEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
40
20
0

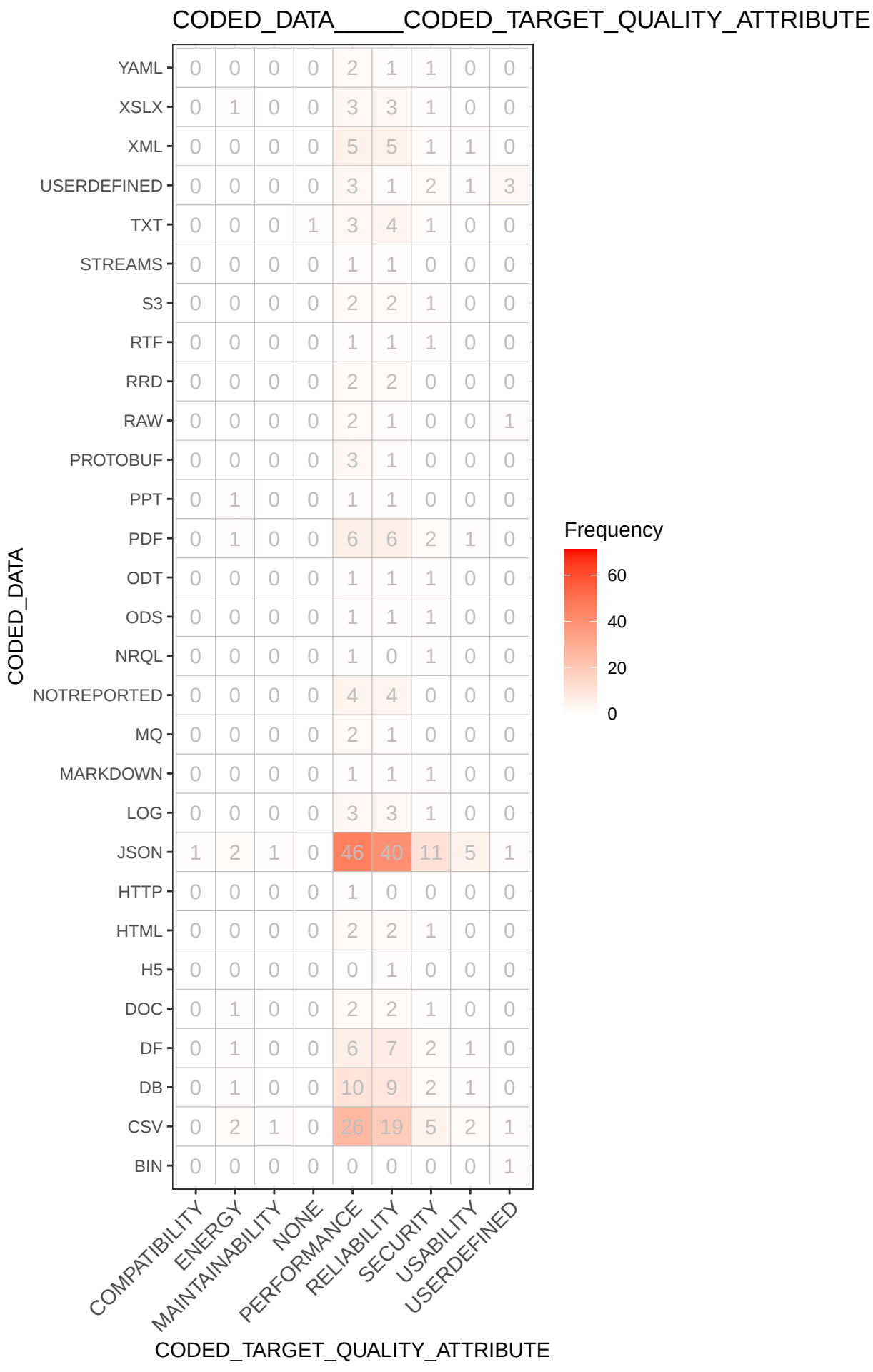

CODED_DATA_____CODED_ASSUMPTIONS
CODED_DATA
YAML
XSLX
XML
USERDEFINED
TXT
STREAMS
S3
RTF
RRD
RAW
PROTOBUF
PPT
PDF
ODT
ODS
NRQL
NOTREPORTED
MQ
MARKDOWN
LOG
JSON
HTTP
HTML
H5
DOC
DF
DB
CSV
BIN
CROSSPLATFORM
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0

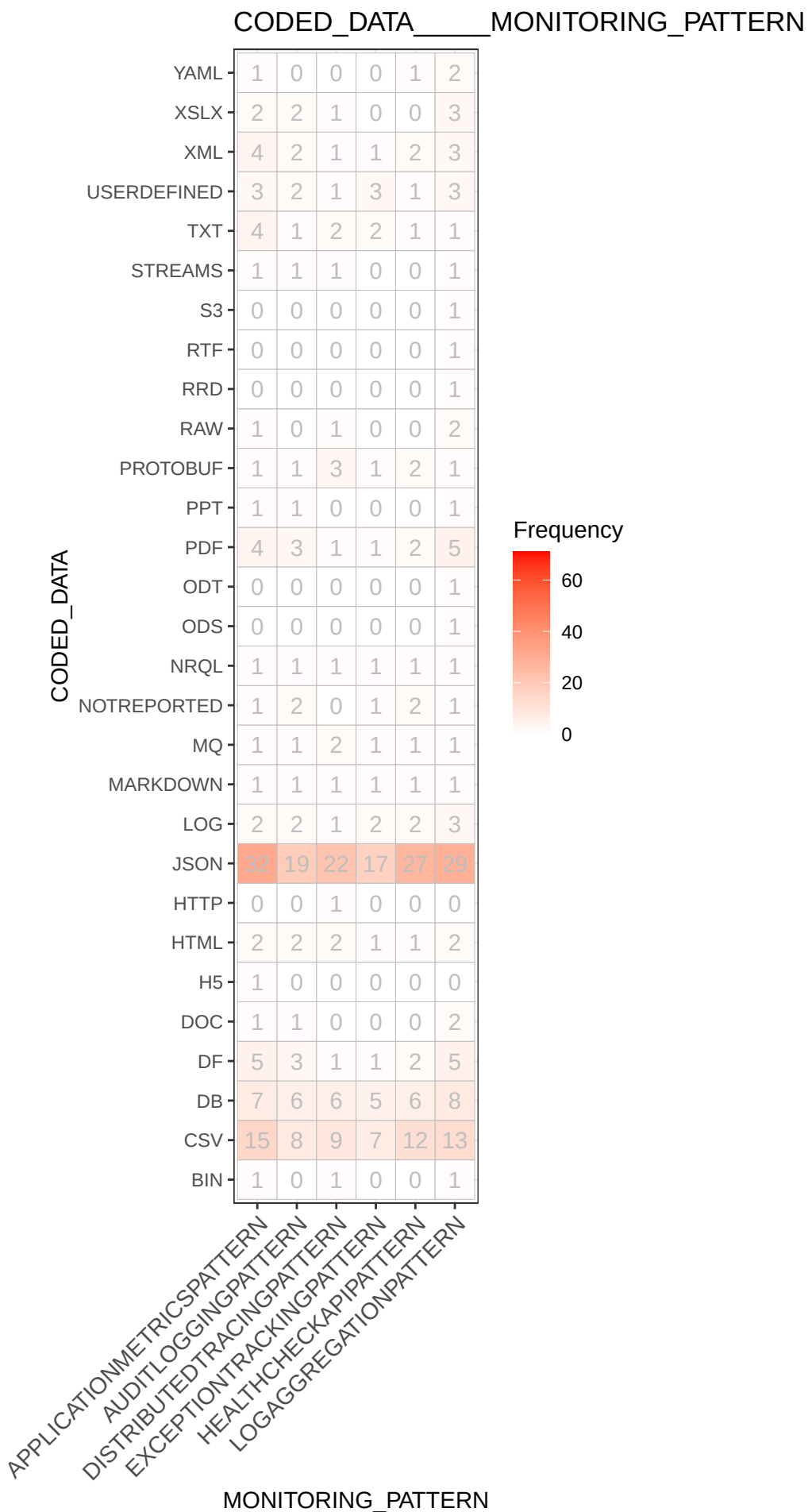

CODED_DATA_____CODED_USER_METRICS
CODED_DATA
YAML 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0
XSLX 0 0 0 1 2 1 0 0 1 1 0 0 0 1 1 0 0
XML 1 0 0 1 4 1 3 0 2 1 0 1 0 3 3 3 1
USERDEFINED 0 0 0 0 1 0 0 0 1 0 0 0 0 2 4 0 0
TXT 0 0 0 0 2 1 0 0 0 0 0 0 0 0 1 0 0
STREAMS 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
S3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 0 0
RTF 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0
RRD 0 0 0 0 1 0 1 0 1 0 0 0 0 0 0 1 0
RAW 0 0 1 0 1 0 0 1 1 0 0 0 0 1 2 0 0
PROTOBUF 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PPT 0 0 0 1 0 0 0 0 1 1 0 0 0 0 1 0 0
PDF 0 0 0 1 4 2 2 0 2 1 0 0 0 4 4 1 1
ODT 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0
ODS 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0
NRQL 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 1
NOTREPORTED 0 0 1 1 1 0 0 1 1 0 0 0 0 1 0 0 0
MQ 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
MARKDOWN 0 0 0 0 1 0 0 0 1 0 0 0 0 1 1 0 0
LOG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
JSON 2 1 0 2 19 7 8 2 19 0 1 0 1 18 19 7 5
HTTP 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HTML 0 0 0 0 2 0 0 0 1 0 0 0 0 1 1 0 0
H5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DOC 0 0 0 1 1 1 0 0 1 1 0 0 0 1 1 0 0
DF 0 0 0 1 4 2 2 0 2 1 0 0 0 4 4 1 1
DB 0 0 0 1 3 0 0 0 3 1 0 0 0 2 4 0 0
CSV 1 0 0 1 12 4 4 0 10 2 0 1 1 10 10 3 2
BIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0

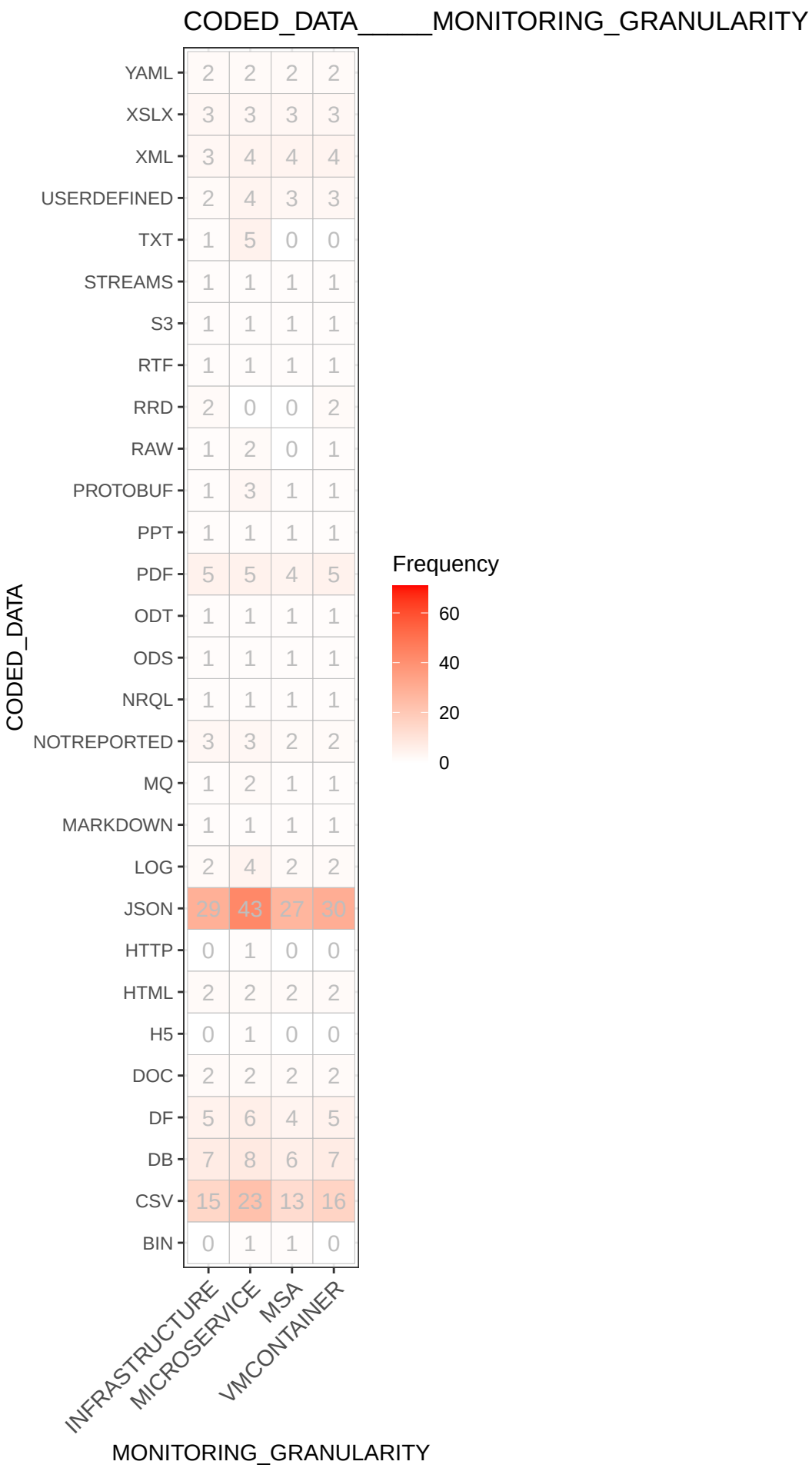

CODED_DATA_____CODED_SYSTEM_METRICS
CODED_DATA
YAML 0 0 2 0 0 1 2 0 2 2 1 0 0 1 1 0
XSLX 0 0 3 1 0 1 3 0 3 3 0 0 0 1 1 0
XML 1 0 5 3 1 1 4 0 5 5 1 0 0 0 2 1
USERDEFINED 0 0 2 1 0 0 2 0 2 2 0 0 0 0 2 4
TXT 0 1 3 0 0 0 2 1 3 3 1 0 0 0 2 0
STREAMS 0 0 1 0 0 0 1 0 1 1 0 0 0 0 0 0
S3 0 0 1 1 0 0 1 0 1 1 0 0 0 0 1 1
RTF 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
RRD 0 0 2 1 0 0 2 0 2 2 0 0 0 1 1 0
RAW 0 0 2 1 0 0 2 0 2 2 0 0 0 0 1 1
PROTOBUF 0 1 1 2 1 1 1 0 2 3 0 0 2 1 3 1
PPT 0 0 1 0 0 0 1 0 1 1 0 0 0 1 0 0
PDF 0 0 6 2 1 2 6 0 6 6 1 0 0 1 4 1
ODT 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
ODS 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
NRQL 0 1 1 0 1 1 1 0 1 1 0 0 0 0 1 0
NOTREPORTED 0 0 5 1 2 2 4 0 5 3 0 0 0 0 1 1
MQ 0 0 1 0 1 0 1 0 1 2 0 0 0 0 1 0
MARKDOWN 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 1
LOG 1 0 1 1 2 0 1 0 2 3 0 0 0 0 2 1
JSON 3 4 34 17 10 12 30 1 38 41 3 1 4 5 32 10
HTTP 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0
HTML 0 0 2 1 0 1 2 0 2 2 0 0 0 0 1 1
H5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DOC 0 0 2 1 0 1 2 0 2 2 0 0 0 1 1 0
DF 0 0 6 2 1 2 6 0 6 6 1 0 0 1 4 1
DB 1 0 7 2 2 1 8 0 8 10 0 0 0 1 5 3
CSV 1 3 18 11 7 5 17 0 21 24 3 0 1 5 16 3
BIN 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
0

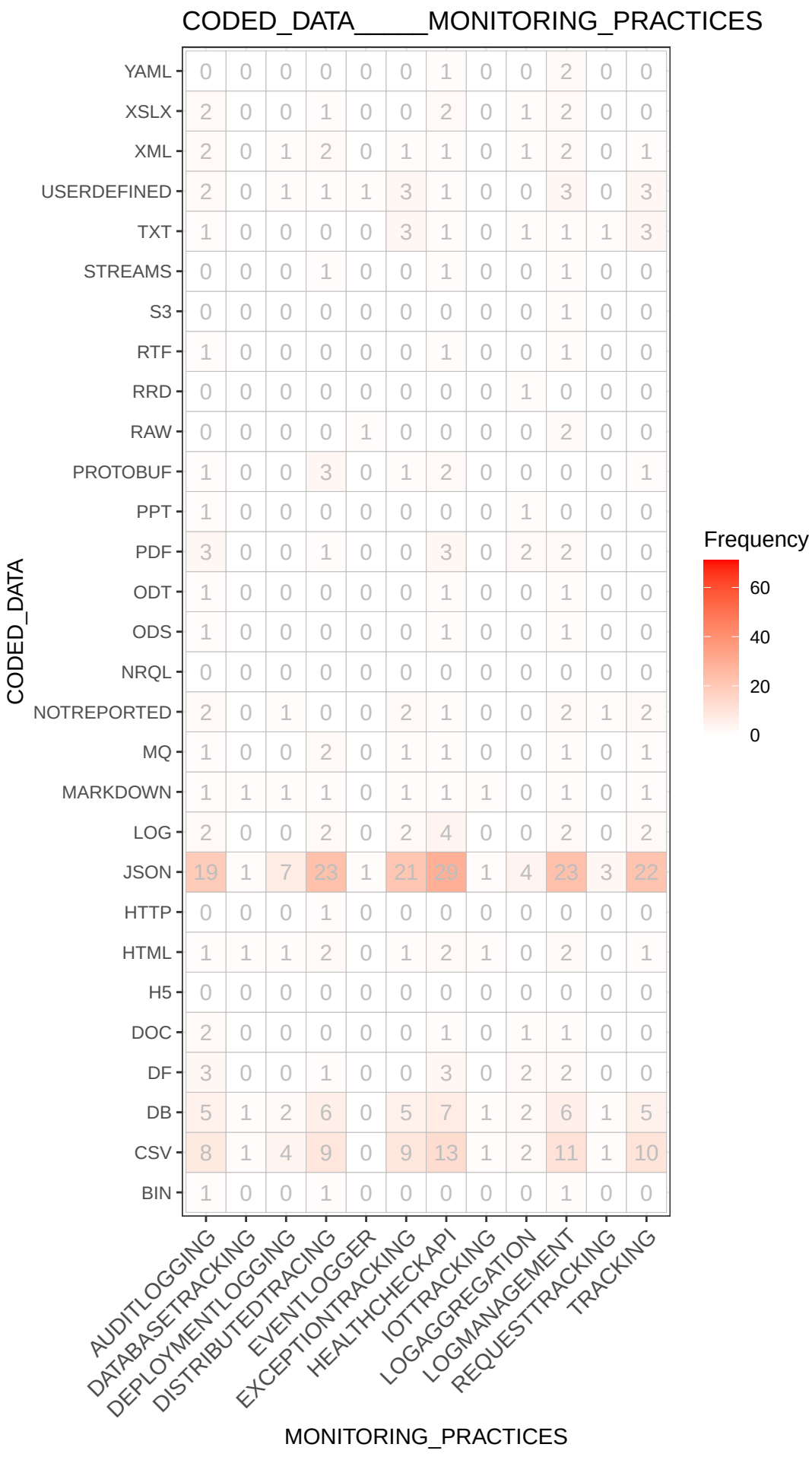

CODED_DATA_____TRACING
YAML 2 0
XSLX 2 1
XML 4 1
USERDEFINED 3 1
TXT 5 0
STREAMS 0 1
S3 2 0
RTF 1 0
RRD 2 0
RAW 2 1
PROTOBUF 0 3
PPT 1 0
PDF 6 0
ODT 1 0
ODS 1 0
NRQL 0 1
NOTREPORTED 5 0
MQ 0 2
MARKDOWN 1 0
LOG 1 3
JSON 24 25
HTTP 0 1
HTML 1 1
H5 1 0
DOC 2 0
DF 7 0
DB 5 5
CSV 15 11
BIN 0 1
CODED_DATA
FALSE
TRUE
TRACING
Frequency
60
40
20
0

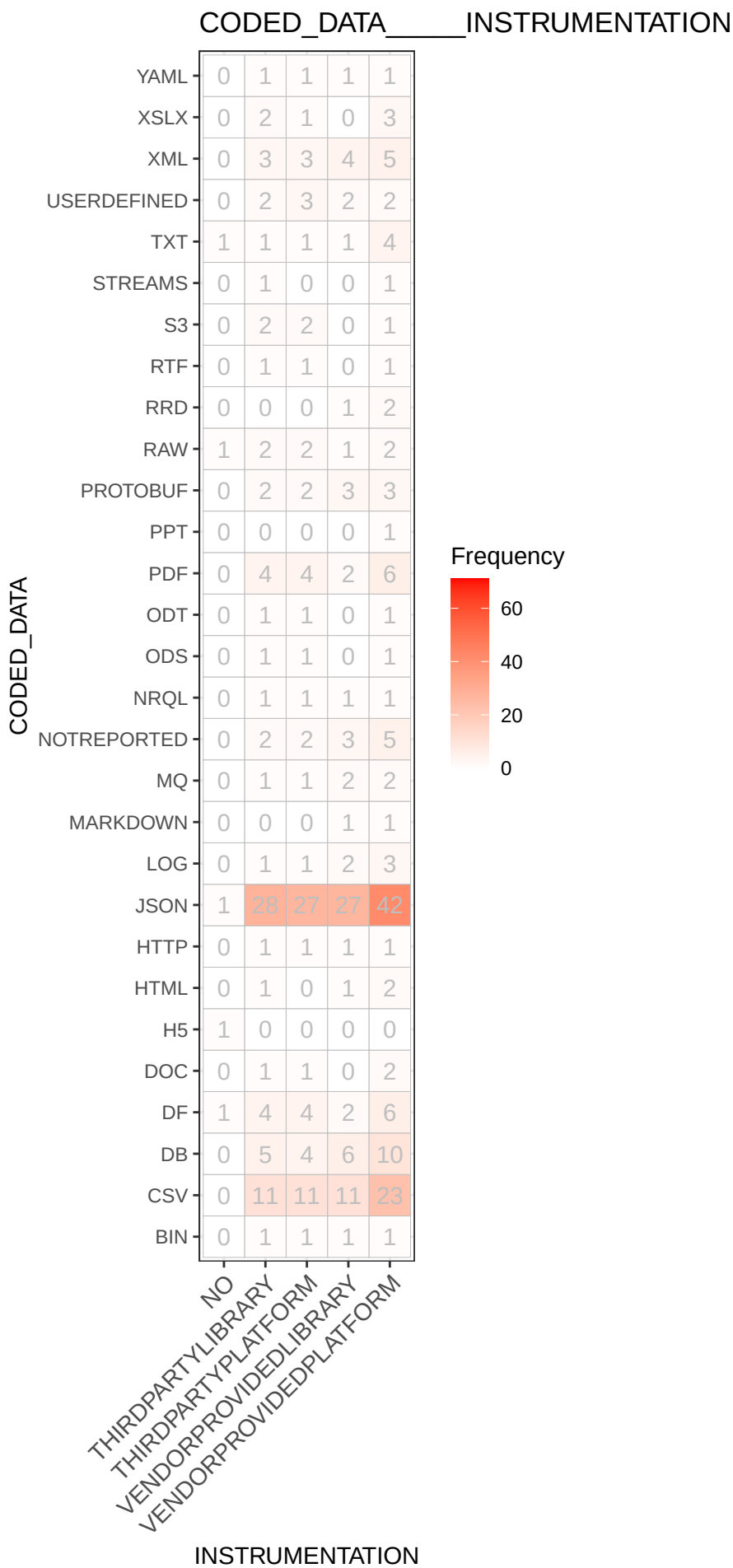

CODED_DATA_____EVENTS_LOGGING
CODED_DATA
YAML 0 2
XSLX 0 3
XML 0 5
USERDEFINED 1 3
TXT 2 3
STREAMS 0 1
S3 1 1
RTF 0 1
RRD 0 2
RAW 1 2
PROTOBUF 1 2
PPT 0 1
PDF 0 6
ODT 0 1
ODS 0 1
NRQL 0 1
NOTREPORTED 1 4
MQ 0 2
MARKDOWN 0 1
LOG 2 2
JSON 10 39
HTTP 0 1
HTML 0 2
H5 1 0
DOC 0 2
DF 1 6
DB 1 9
CSV 5 21
BIN 1 0
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0

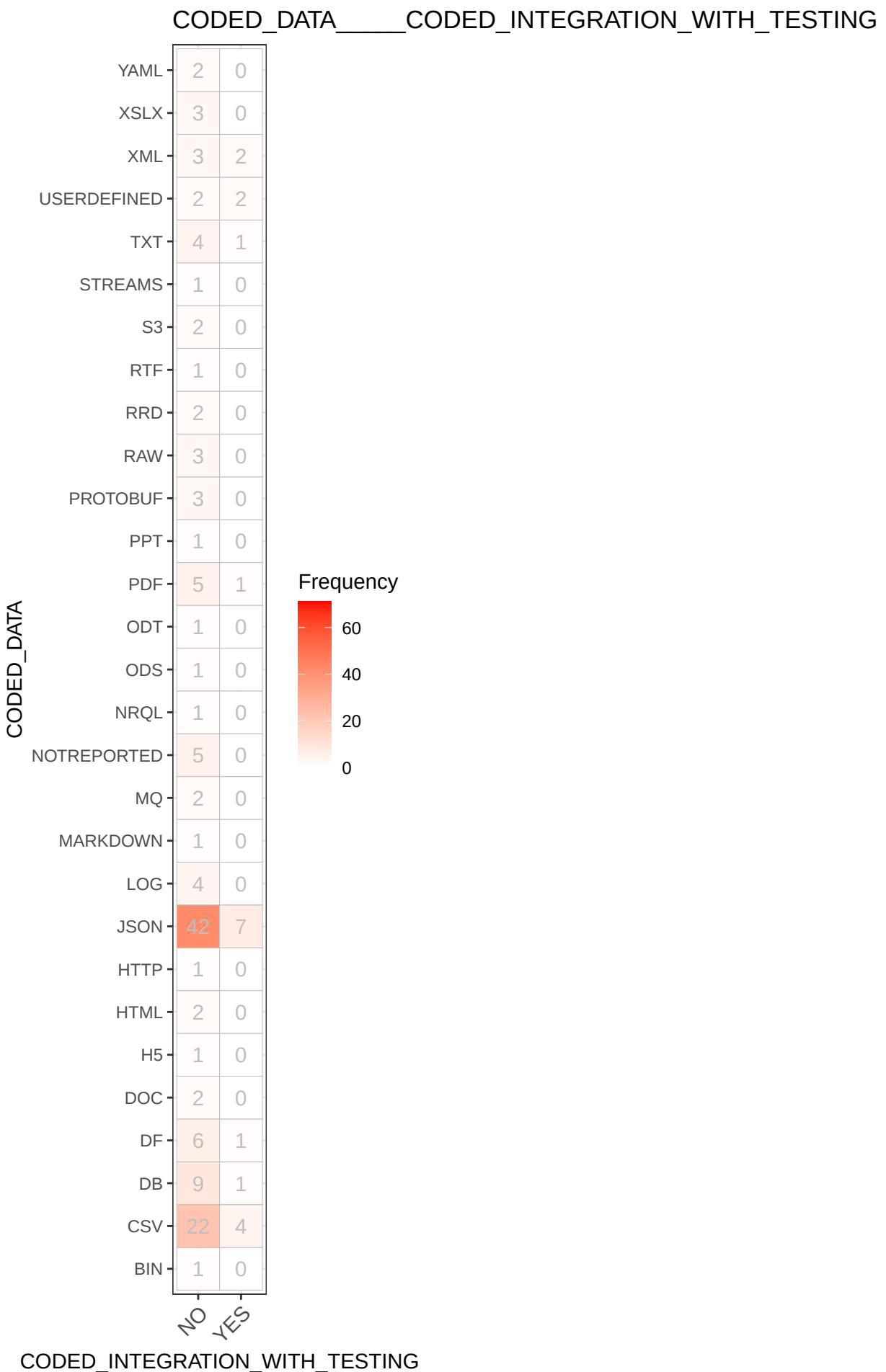

CODED_DATA_____CODED_TARGET_QUALITY_ATTRIBUTE
CODED_DATA
YAML 0 0 0 0 2 1 1 0 0
XSLX 0 1 0 0 3 3 1 0 0
XML 0 0 0 0 5 5 1 1 0
USERDEFINED 0 0 0 0 3 1 2 1 3
TXT 0 0 0 1 3 4 1 0 0
STREAMS 0 0 0 0 1 1 0 0 0
S3 0 0 0 0 2 2 1 0 0
RTF 0 0 0 0 1 1 1 0 0
RRD 0 0 0 0 2 2 0 0 0
RAW 0 0 0 0 2 1 0 0 1
PROTOBUF 0 0 0 0 3 1 0 0 0
PPT 0 1 0 0 1 1 0 0 0
PDF 0 1 0 0 6 6 2 1 0
ODT 0 0 0 0 1 1 1 0 0
ODS 0 0 0 0 1 1 1 0 0
NRQL 0 0 0 0 1 0 1 0 0
NOTREPORTED 0 0 0 0 4 4 0 0 0
MQ 0 0 0 0 2 1 0 0 0
MARKDOWN 0 0 0 0 1 1 1 0 0
LOG 0 0 0 0 3 3 1 0 0
JSON 1 2 1 0 46 40 11 5 1
HTTP 0 0 0 0 1 0 0 0 0
HTML 0 0 0 0 2 2 1 0 0
H5 0 0 0 0 0 1 0 0 0
DOC 0 1 0 0 2 2 1 0 0
DF 0 1 0 0 6 7 2 1 0
DB 0 1 0 0 10 9 2 1 0
CSV 0 2 1 0 26 19 5 2 1
BIN 0 0 0 0 0 0 0 0 1
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0

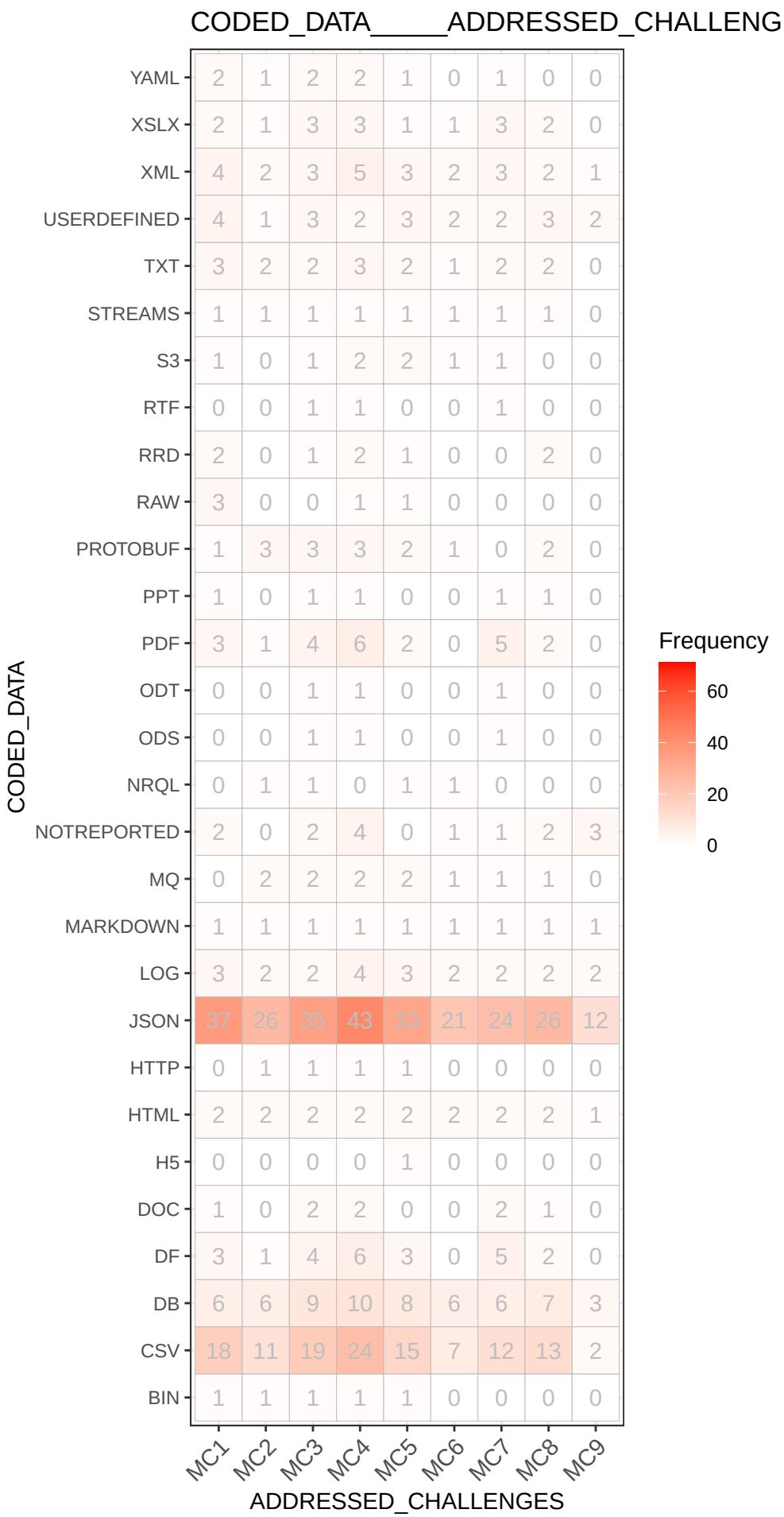

CODED_DATA_____MONITORING_PATTERN
YAML 1 0 0 0 1 2
XSLX 2 2 1 0 0 3
XML 4 2 1 1 2 3
USERDEFINED 3 2 1 3 1 3
TXT 4 1 2 2 1 1
STREAMS 1 1 1 0 0 1
S3 0 0 0 0 0 1
RTF 0 0 0 0 0 1
RRD 0 0 0 0 0 1
RAW 1 0 1 0 0 2
PROTOBUF 1 1 3 1 2 1
PPT 1 1 0 0 0 1
PDF 4 3 1 1 2 5
ODT 0 0 0 0 0 1
ODS 0 0 0 0 0 1
NRQL 1 1 1 1 1 1
NOTREPORTED 1 2 0 1 2 1
MQ 1 1 2 1 1 1
MARKDOWN 1 1 1 1 1 1
LOG 2 2 1 2 2 3
JSON 32 19 22 17 27 29
HTTP 0 0 1 0 0 0
HTML 2 2 2 1 1 2
H5 1 0 0 0 0 0
DOC 1 1 0 0 0 2
DF 5 3 1 1 2 5
DB 7 6 6 5 6 8
CSV 15 8 9 7 12 13
BIN 1 0 1 0 0 1
CODED_DATA
Frequency
60
40
20
0
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN


CODED_DATA_____MONITORING_GRANULARITY
YAML 2 2 2 2
XSLX 3 3 3 3
XML 3 4 4 4
USERDEFINED 2 4 3 3
TXT 1 5 0 0
STREAMS 1 1 1 1
S3 1 1 1 1
RTF 1 1 1 1
RRD 2 0 0 2
RAW 1 2 0 1
PROTOBUF 1 3 1 1
PPT 1 1 1 1
PDF 5 5 4 5
ODT 1 1 1 1
ODS 1 1 1 1
NRQL 1 1 1 1
NOTREPORTED 3 3 2 2
MQ 1 2 1 1
MARKDOWN 1 1 1 1
LOG 2 4 2 2
JSON 29 43 27 30
HTTP 0 1 0 0
HTML 2 2 2 2
H5 0 1 0 0
DOC 2 2 2 2
DF 5 6 4 5
DB 7 8 6 7
CSV 15 23 13 16
BIN 0 1 1 0
CODED_DATA
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


CODED_DATA_____MONITORING_PRACTICES
CODED_DATA
YAML 0 0 0 0 0 0 1 0 0 2 0 0
XSLX 2 0 0 1 0 0 2 0 1 2 0 0
XML 2 0 1 2 0 1 1 0 1 2 0 1
USERDEFINED 2 0 1 1 1 3 1 0 0 3 0 3
TXT 1 0 0 0 0 3 1 0 1 1 1 3
STREAMS 0 0 0 1 0 0 1 0 0 1 0 0
S3 0 0 0 0 0 0 0 0 0 1 0 0
RTF 1 0 0 0 0 0 1 0 0 1 0 0
RRD 0 0 0 0 0 0 0 0 1 0 0 0
RAW 0 0 0 0 1 0 0 0 0 2 0 0
PROTOBUF 1 0 0 3 0 1 2 0 0 0 0 1
PPT 1 0 0 0 0 0 0 0 1 0 0 0
PDF 3 0 0 1 0 0 3 0 2 2 0 0
ODT 1 0 0 0 0 0 1 0 0 1 0 0
ODS 1 0 0 0 0 0 1 0 0 1 0 0
NRQL 0 0 0 0 0 0 0 0 0 0 0 0
NOTREPORTED 2 0 1 0 0 2 1 0 0 2 1 2
MQ 1 0 0 2 0 1 1 0 0 1 0 1
MARKDOWN 1 1 1 1 0 1 1 1 0 1 0 1
LOG 2 0 0 2 0 2 4 0 0 2 0 2
JSON 19 1 7 23 1 21 29 1 4 23 3 22
HTTP 0 0 0 1 0 0 0 0 0 0 0 0
HTML 1 1 1 2 0 1 2 1 0 2 0 1
H5 0 0 0 0 0 0 0 0 0 0 0 0
DOC 2 0 0 0 0 0 1 0 1 1 0 0
DF 3 0 0 1 0 0 3 0 2 2 0 0
DB 5 1 2 6 0 5 7 1 2 6 1 5
CSV 8 1 4 9 0 9 13 1 2 11 1 10
BIN 1 0 0 1 0 0 0 0 0 1 0 0
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0


CODED_DATA_____INSTRUMENTATION
YAML 0 1 1 1 1
XSLX 0 2 1 0 3
XML 0 3 3 4 5
USERDEFINED 0 2 3 2 2
TXT 1 1 1 1 4
STREAMS 0 1 0 0 1
S3 0 2 2 0 1
RTF 0 1 1 0 1
RRD 0 0 0 1 2
RAW 1 2 2 1 2
PROTOBUF 0 2 2 3 3
PPT 0 0 0 0 1
PDF 0 4 4 2 6
ODT 0 1 1 0 1
ODS 0 1 1 0 1
NRQL 0 1 1 1 1
NOTREPORTED 0 2 2 3 5
MQ 0 1 1 2 2
MARKDOWN 0 0 0 1 1
LOG 0 1 1 2 3
JSON 1 28 27 27 42
HTTP 0 1 1 1 1
HTML 0 1 0 1 2
H5 1 0 0 0 0
DOC 0 1 1 0 2
DF 1 4 4 2 6
DB 0 5 4 6 10
CSV 0 11 11 11 23
BIN 0 1 1 1 1
CODED_DATA
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


CODED_DATA_____CODED_INTEGRATION_WITH_TESTING
YAML 2 0
XSLX 3 0
XML 3 2
USERDEFINED 2 2
TXT 4 1
STREAMS 1 0
S3 2 0
RTF 1 0
RRD 2 0
RAW 3 0
PROTOBUF 3 0
PPT 1 0
PDF 5 1
ODT 1 0
ODS 1 0
NRQL 1 0
NOTREPORTED 5 0
MQ 2 0
MARKDOWN 1 0
LOG 4 0
JSON 42 7
HTTP 1 0
HTML 2 0
H5 1 0
DOC 2 0
DF 6 1
DB 9 1
CSV 22 4
BIN 1 0
CODED_DATA
NO
YES
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0


CODED_DATA_____ADDRESSED_CHALLENGES
CODED_DATA
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XSLX 2 1 3 3 1 1 3 2 0
XML 4 2 3 5 3 2 3 2 1
USERDEFINED 4 1 3 2 3 2 2 3 2
TXT 3 2 2 3 2 1 2 2 0
STREAMS 1 1 1 1 1 1 1 1 0
S3 1 0 1 2 2 1 1 0 0
RTF 0 0 1 1 0 0 1 0 0
RRD 2 0 1 2 1 0 0 2 0
RAW 3 0 0 1 1 0 0 0 0
PROTOBUF 1 3 3 3 2 1 0 2 0
PPT 1 0 1 1 0 0 1 1 0
PDF 3 1 4 6 2 0 5 2 0
ODT 0 0 1 1 0 0 1 0 0
ODS 0 0 1 1 0 0 1 0 0
NRQL 0 1 1 0 1 1 0 0 0
NOTREPORTED 2 0 2 4 0 1 1 2 3
MQ 0 2 2 2 2 1 1 1 0
MARKDOWN 1 1 1 1 1 1 1 1 1
LOG 3 2 2 4 3 2 2 2 2
JSON 37 26 35 43 33 21 24 26 12
HTTP 0 1 1 1 1 0 0 0 0
HTML 2 2 2 2 2 2 2 2 1
H5 0 0 0 0 1 0 0 0 0
DOC 1 0 2 2 0 0 2 1 0
DF 3 1 4 6 3 0 5 2 0
DB 6 6 9 10 8 6 6 7 3
CSV 18 11 19 24 15 7 12 13 2
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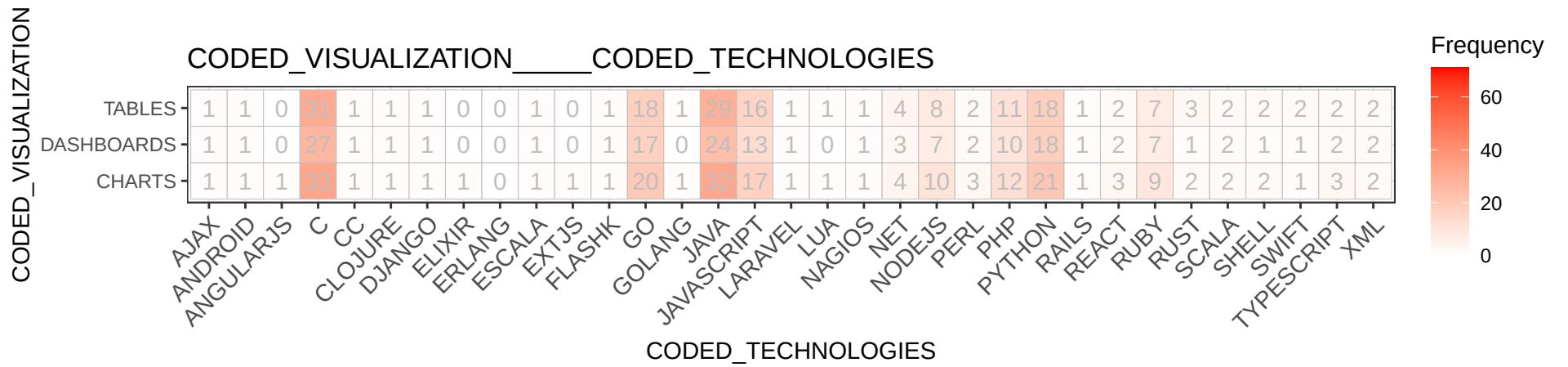
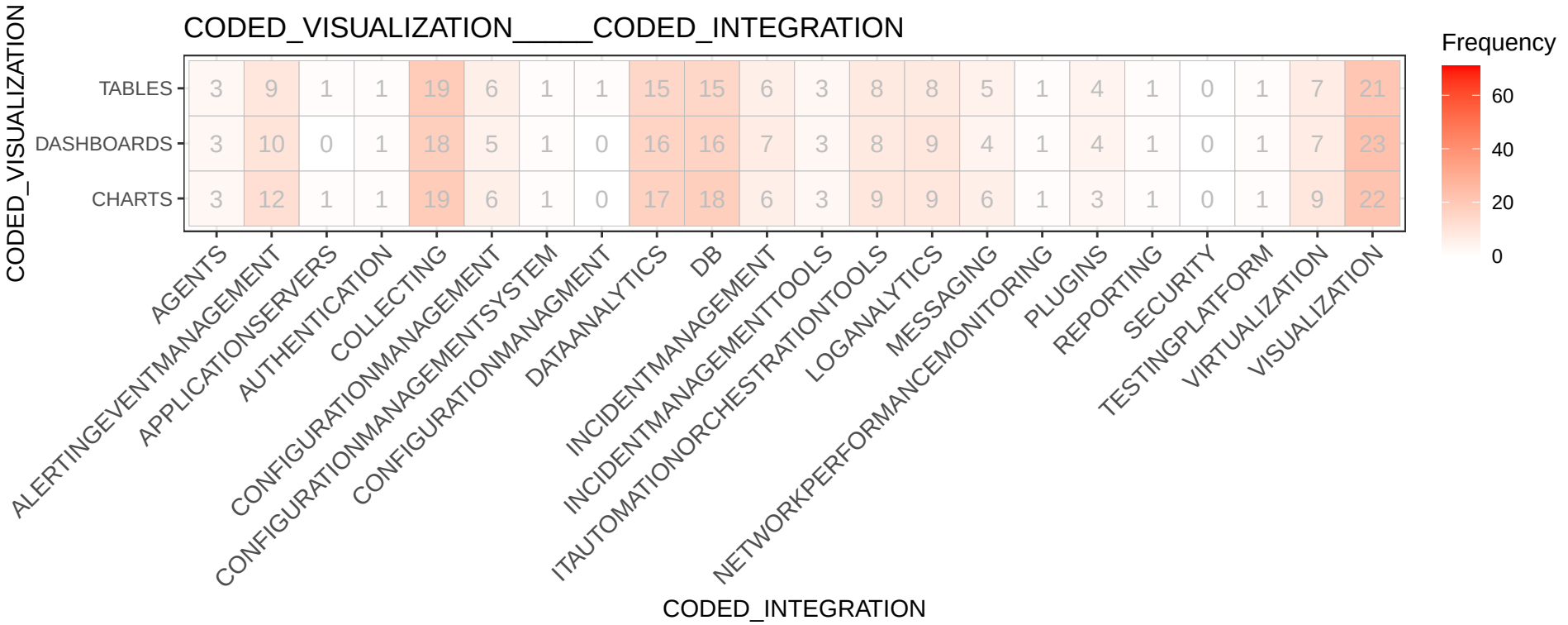
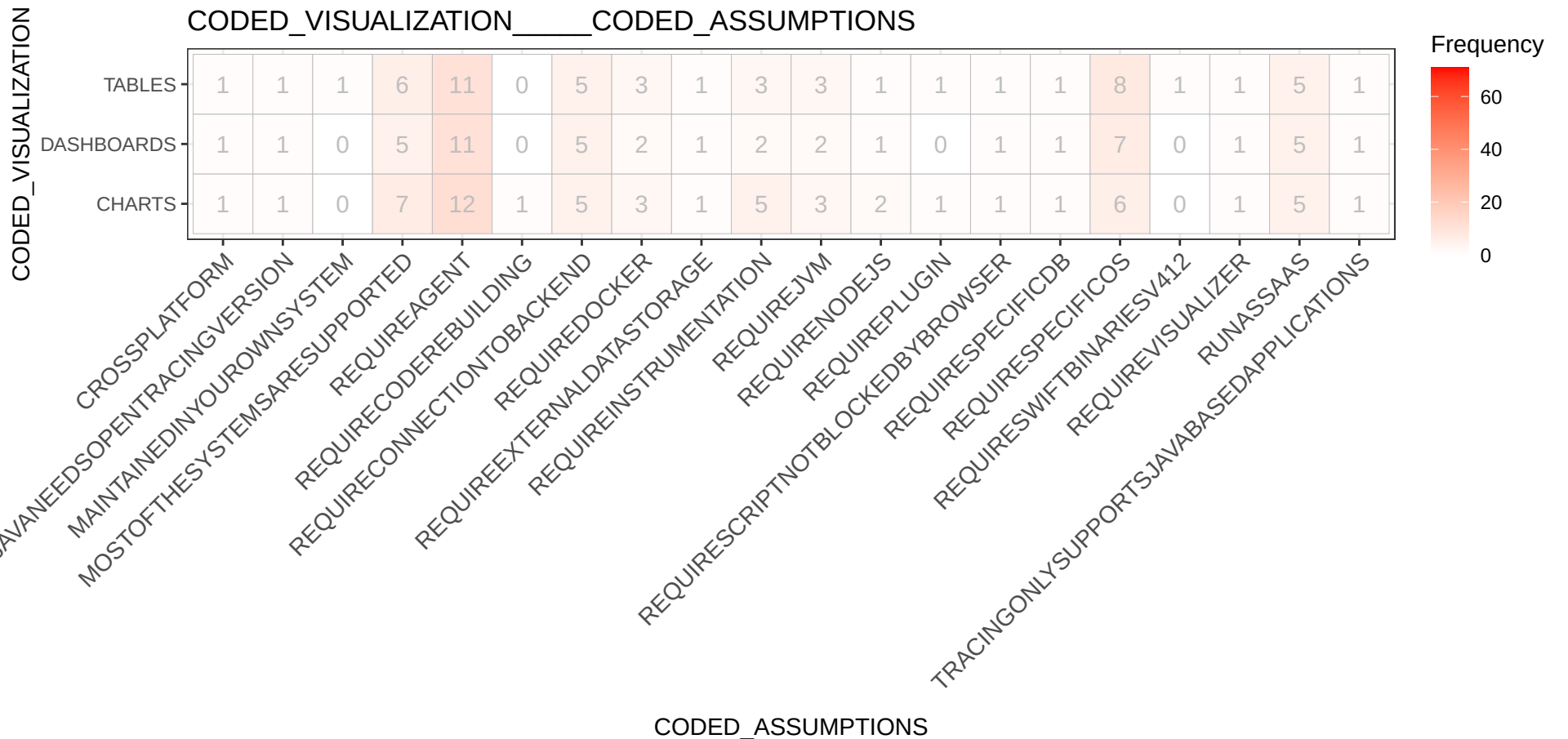
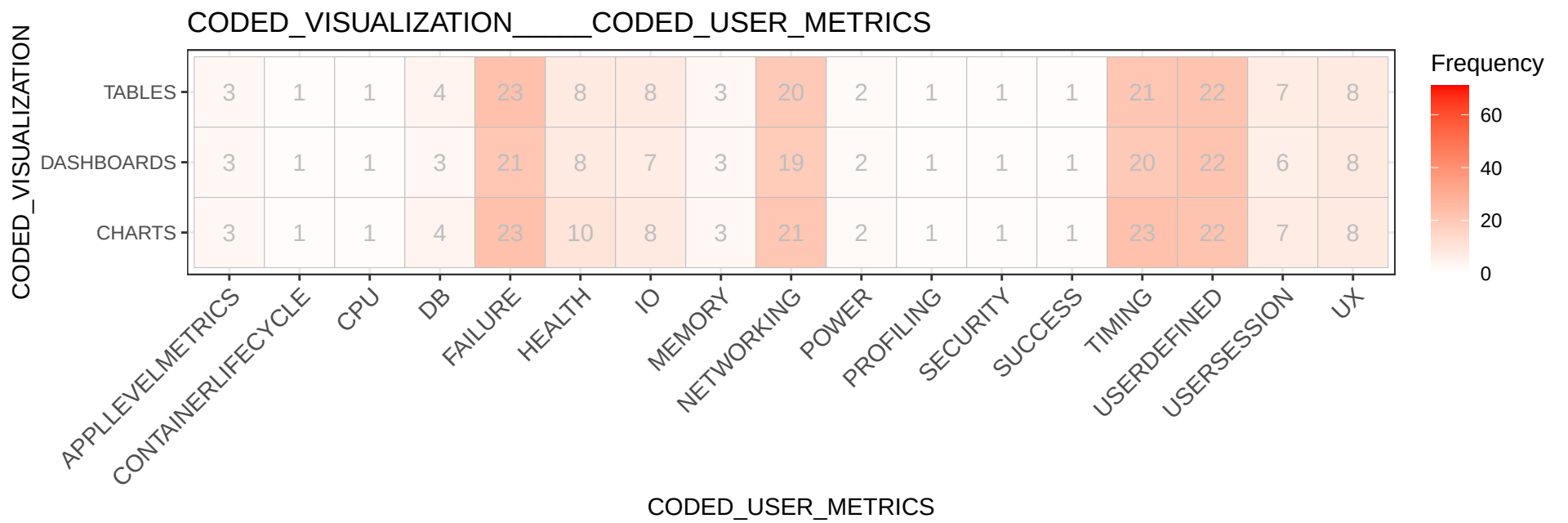
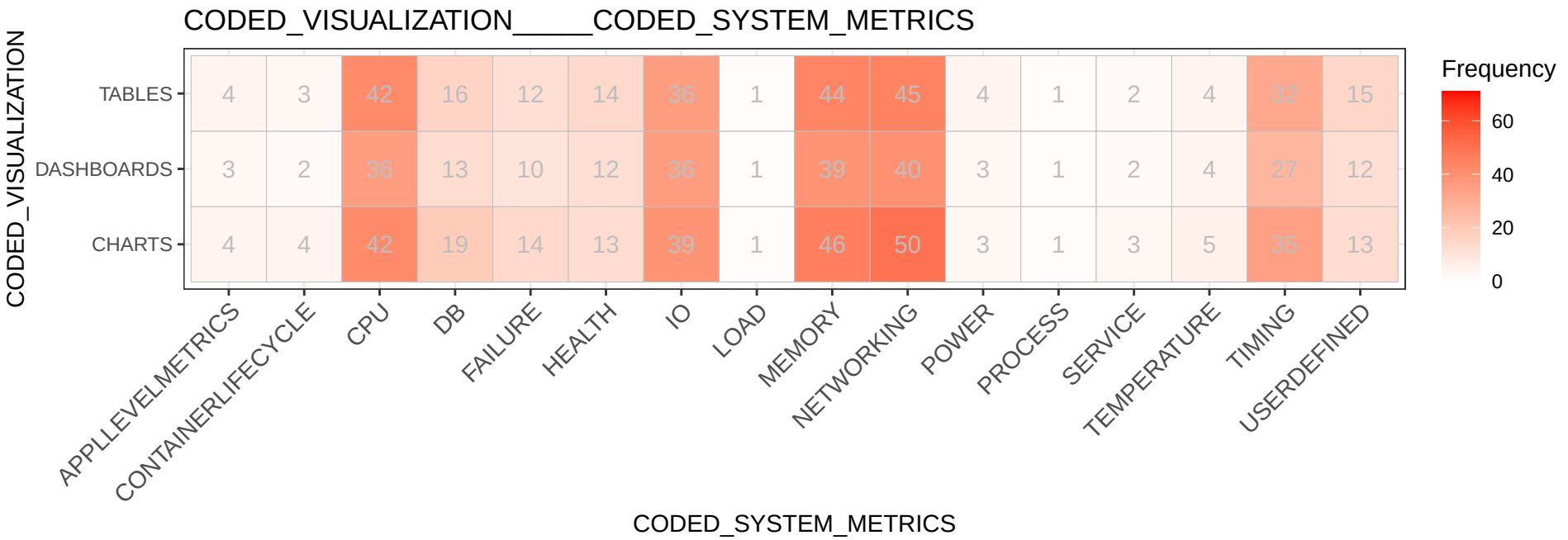
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0

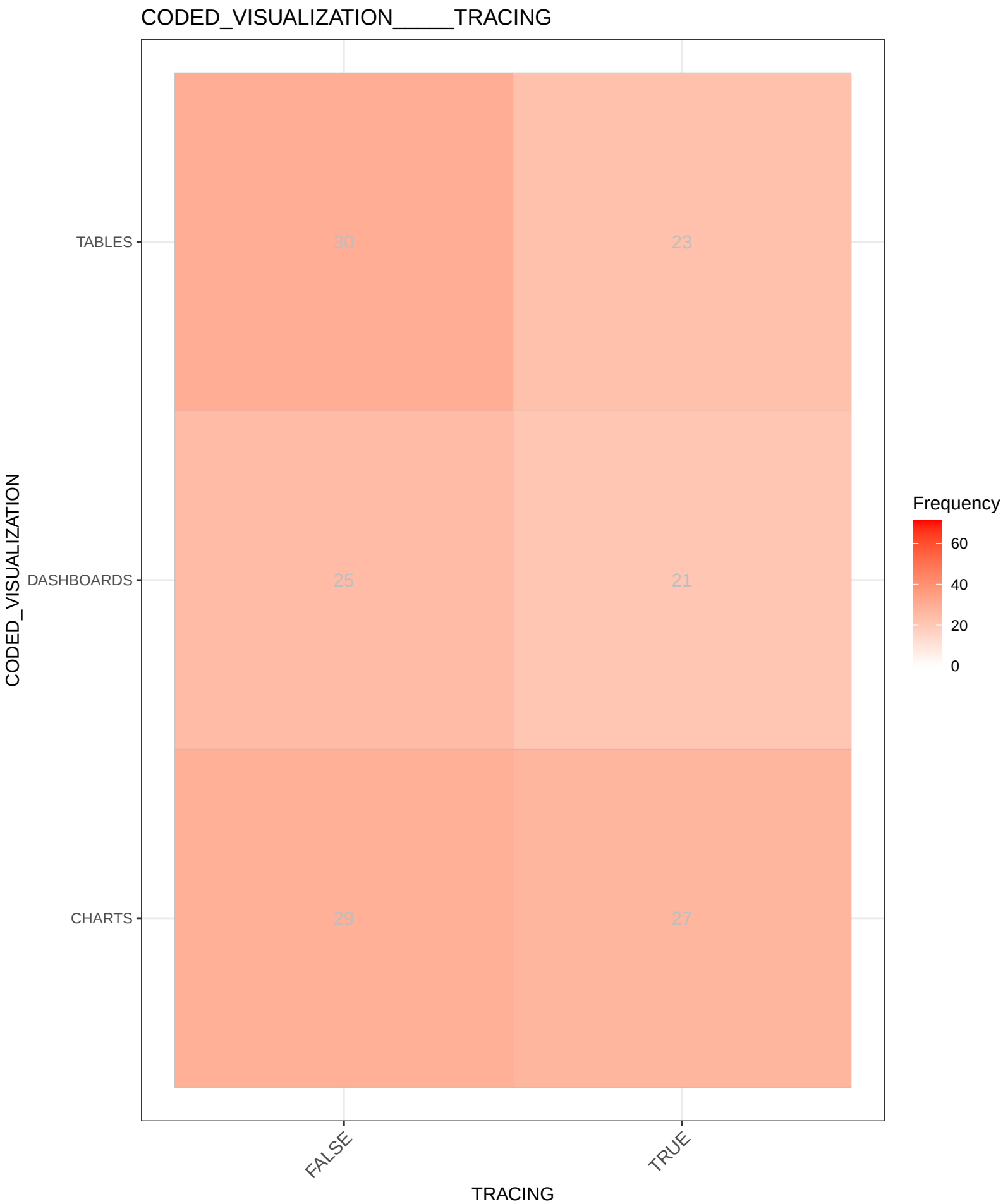

CODED_VISUALIZATION_____CODED_TECHNOLOGIES
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
1 1 0 31 1 1 1 0 0 1 0 1 18 1 29 16 1 1 1 4 8 2 11 18 1 2 7 3 2 2 2 2 2
1 1 0 27 1 1 1 0 0 1 0 1 17 0 24 13 1 0 1 3 7 2 10 18 1 2 7 1 2 1 1 2 2
1 1 1 33 1 1 1 1 0 1 1 1 20 1 32 17 1 1 1 4 10 3 12 21 1 3 9 2 2 2 1 3 2
AJAX
ANDROID
ANGULARJS
C
CC
CLOJURE
DJANGO
ELIXIR
ERLANG
ESCALA
EXTJS
FLASHK
GO
GOLANG
JAVA
JAVASCRIPT
LARAVEL
LUA
NAGIOS
NET
NODEJS
PERL
PHP
PYTHON
RAILS
REACT
RUBY
RUST
SCALA
SHELL
SWIFT
TYPESCRIPT
XML
CODED_TECHNOLOGIES
Frequency
60
40
20
0

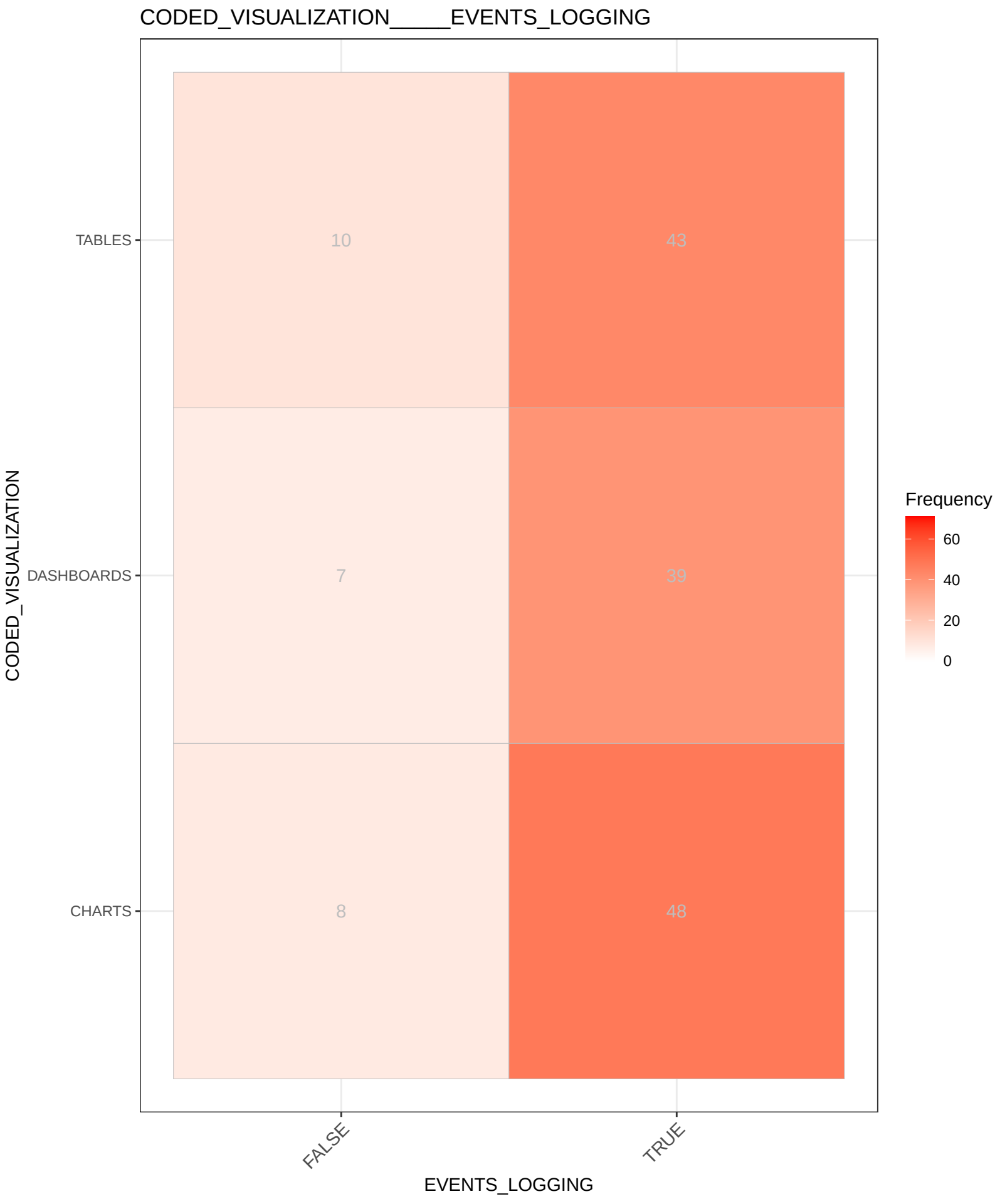

CODED_VISUALIZATION_____CODED_INTEGRATION
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
3 9 1 1 19 6 1 1 15 15 6 3 8 8 5 1 4 1 0 1 7 21
3 10 0 1 18 5 1 0 16 16 7 3 8 9 4 1 4 1 0 1 7 23
3 12 1 1 19 6 1 0 17 18 6 3 9 9 6 1 3 1 0 1 9 22
AGENTS
ALERTINGEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
40
20
0

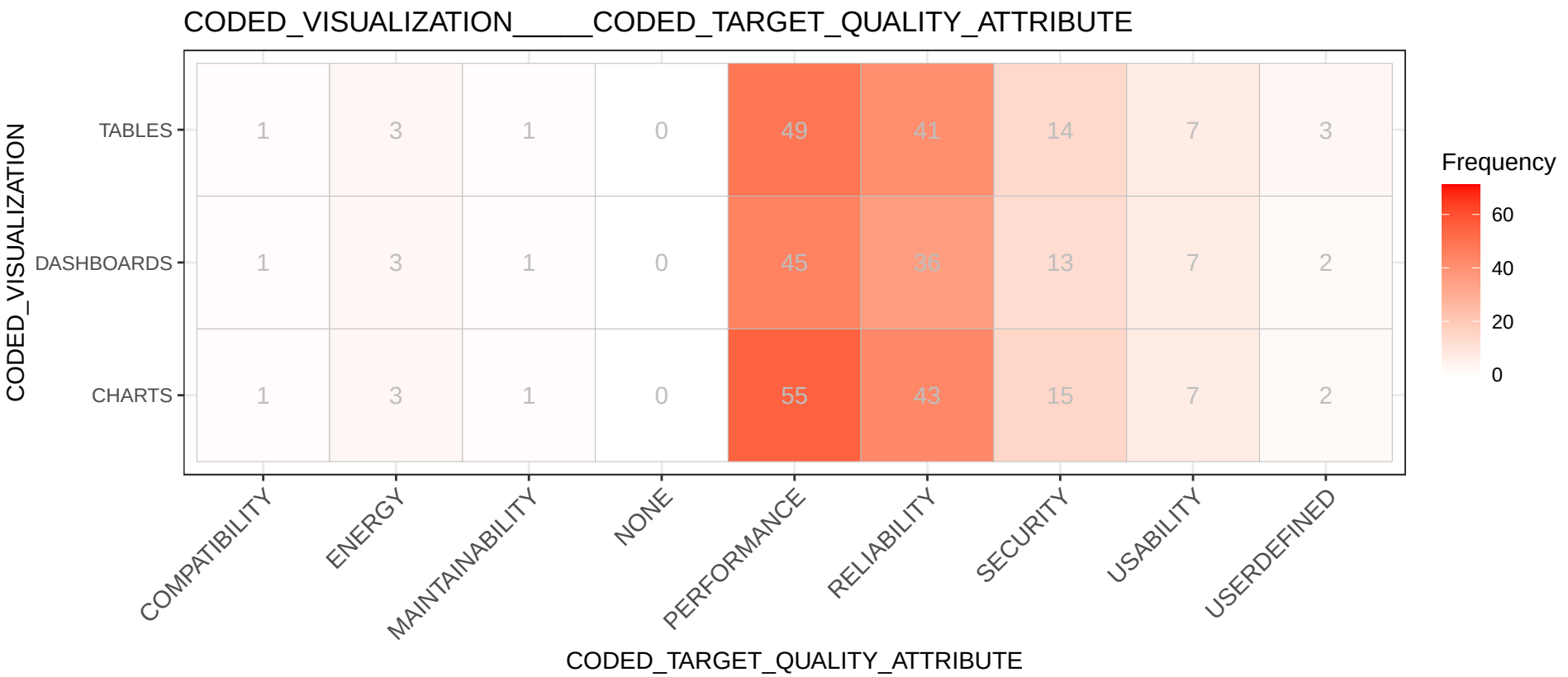

CODED_VISUALIZATION_____CODED_ASSUMPTIONS
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
1 1 1 6 11 0 5 3 1 3 3 1 1 1 1 8 1 1 5 1
1 1 0 5 11 0 5 2 1 2 2 1 0 1 1 7 0 1 5 1
1 1 0 7 12 1 5 3 1 5 3 2 1 1 1 6 0 1 5 1
CROSSPLATFORM
JAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0

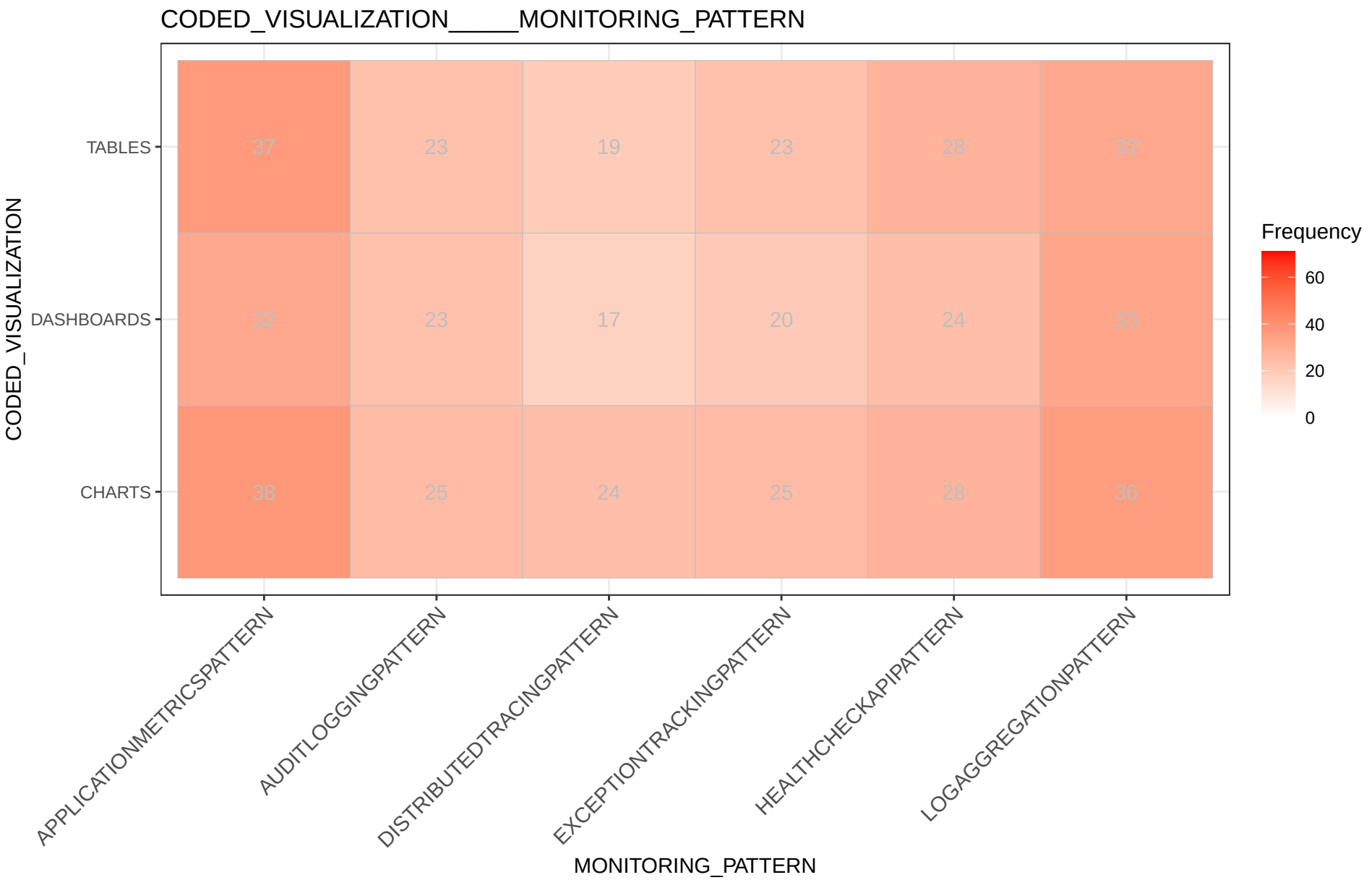

CODED_VISUALIZATION_____CODED_USER_METRICS
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
3 1 1 4 23 8 8 3 20 2 1 1 1 21 22 7 8
3 1 1 3 21 8 7 3 19 2 1 1 1 20 22 6 8
3 1 1 4 23 10 8 3 21 2 1 1 1 23 22 7 8
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0

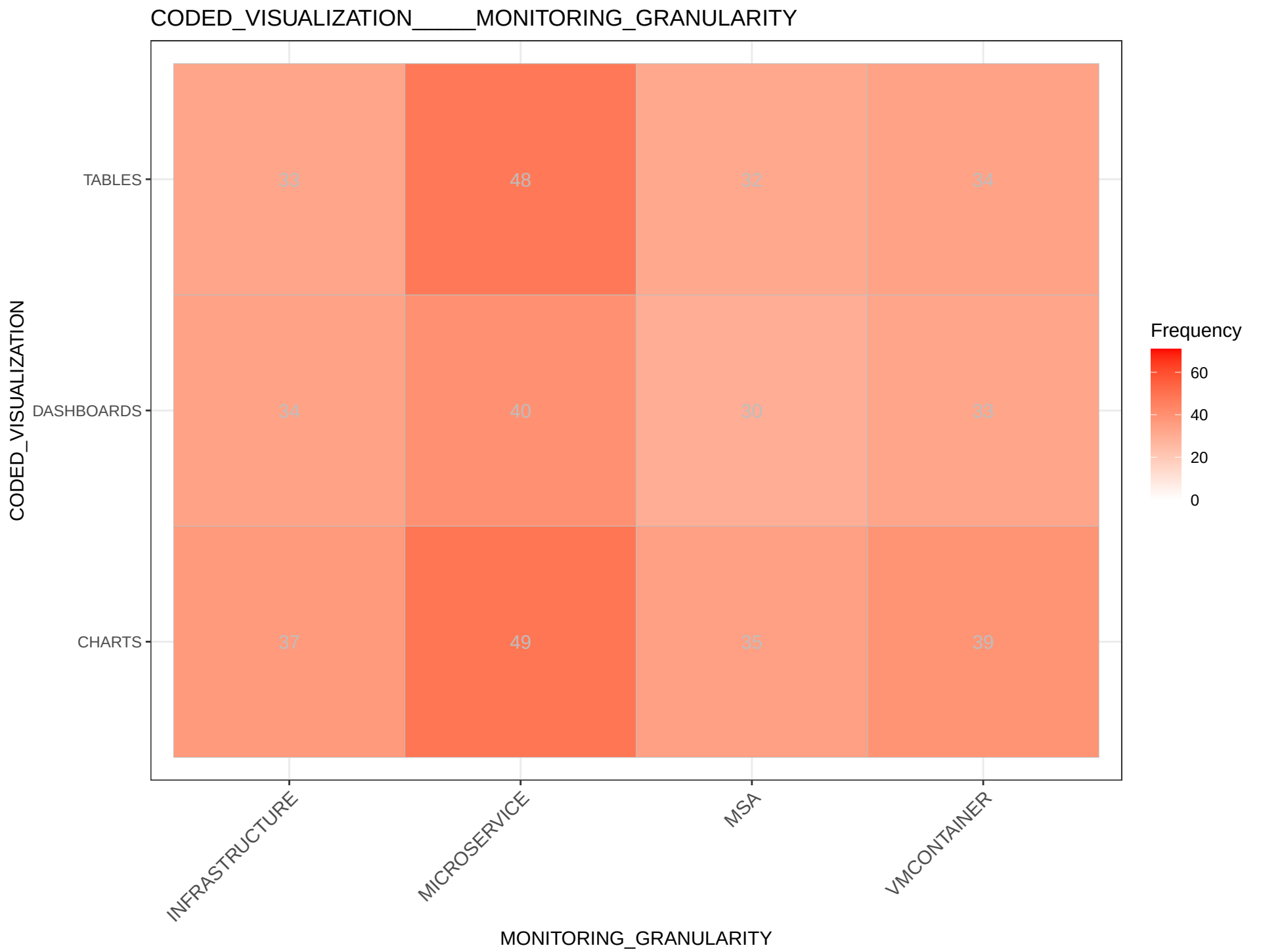

CODED_VISUALIZATION_____CODED_SYSTEM_METRICS
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
4 3 42 16 12 14 36 1 44 45 4 1 2 4 32 15
3 2 36 13 10 12 36 1 39 40 3 1 2 4 27 12
4 4 42 19 14 13 39 1 46 50 3 1 3 5 35 13
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
0

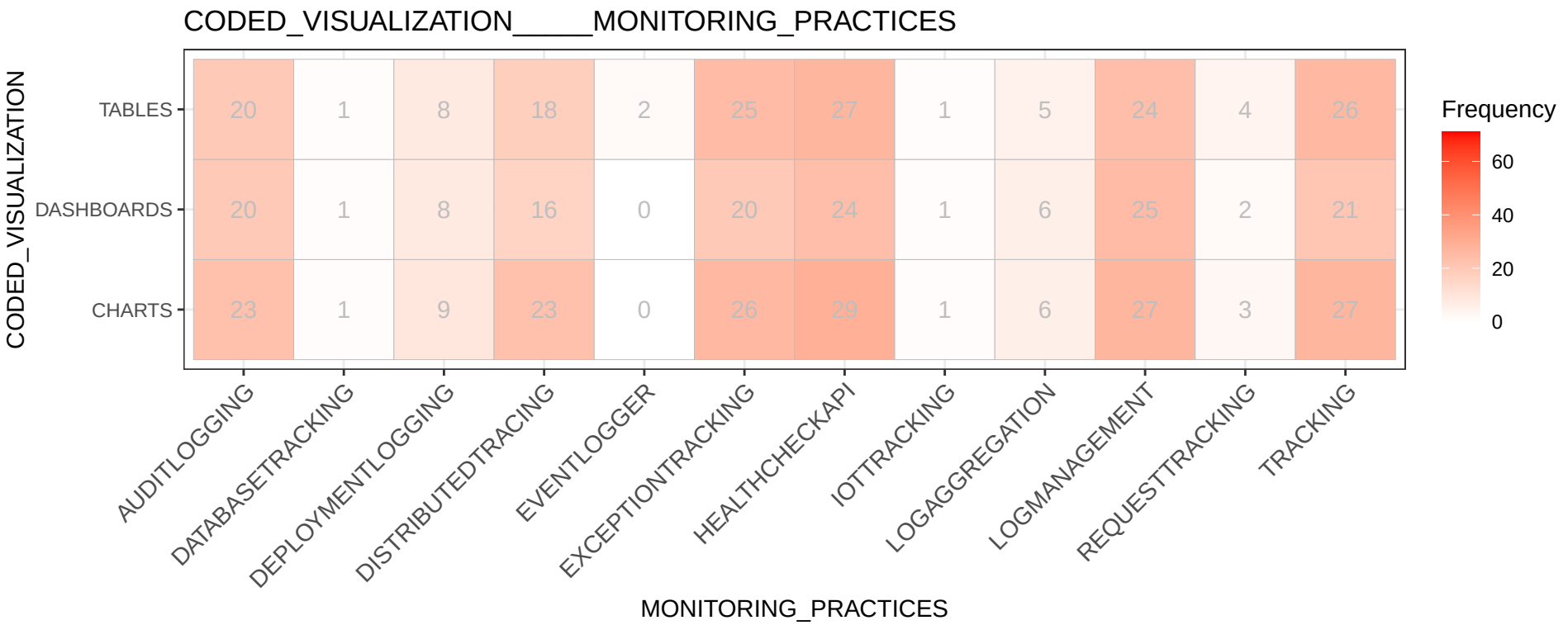

CODED_VISUALIZATION_____TRACING
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
30
23
25
21
29
27
FALSE
TRUE
TRACING
Frequency
60
40
20
0

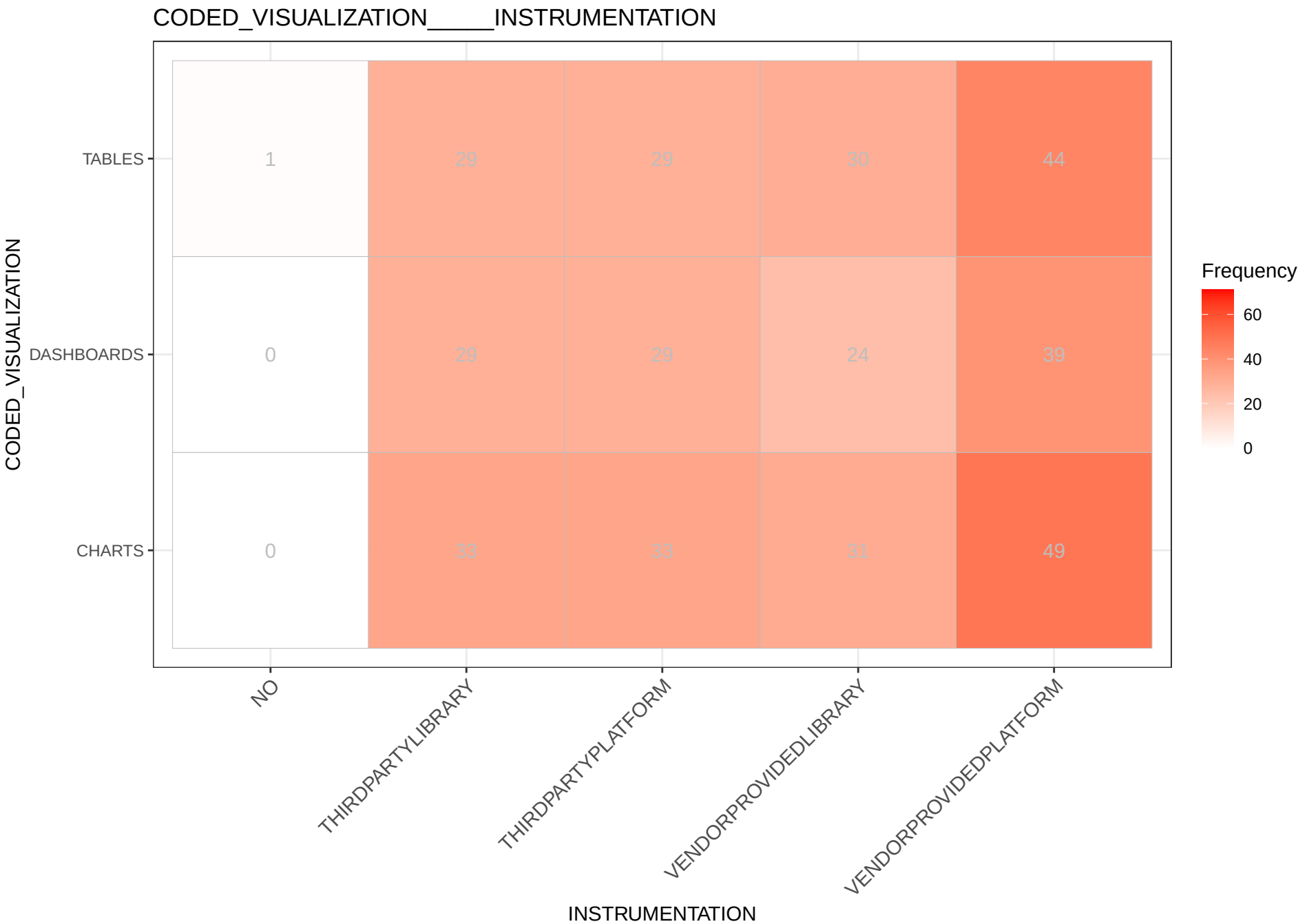

CODED_VISUALIZATION_____EVENTS_LOGGING
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
10
43
7
39
8
48
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0

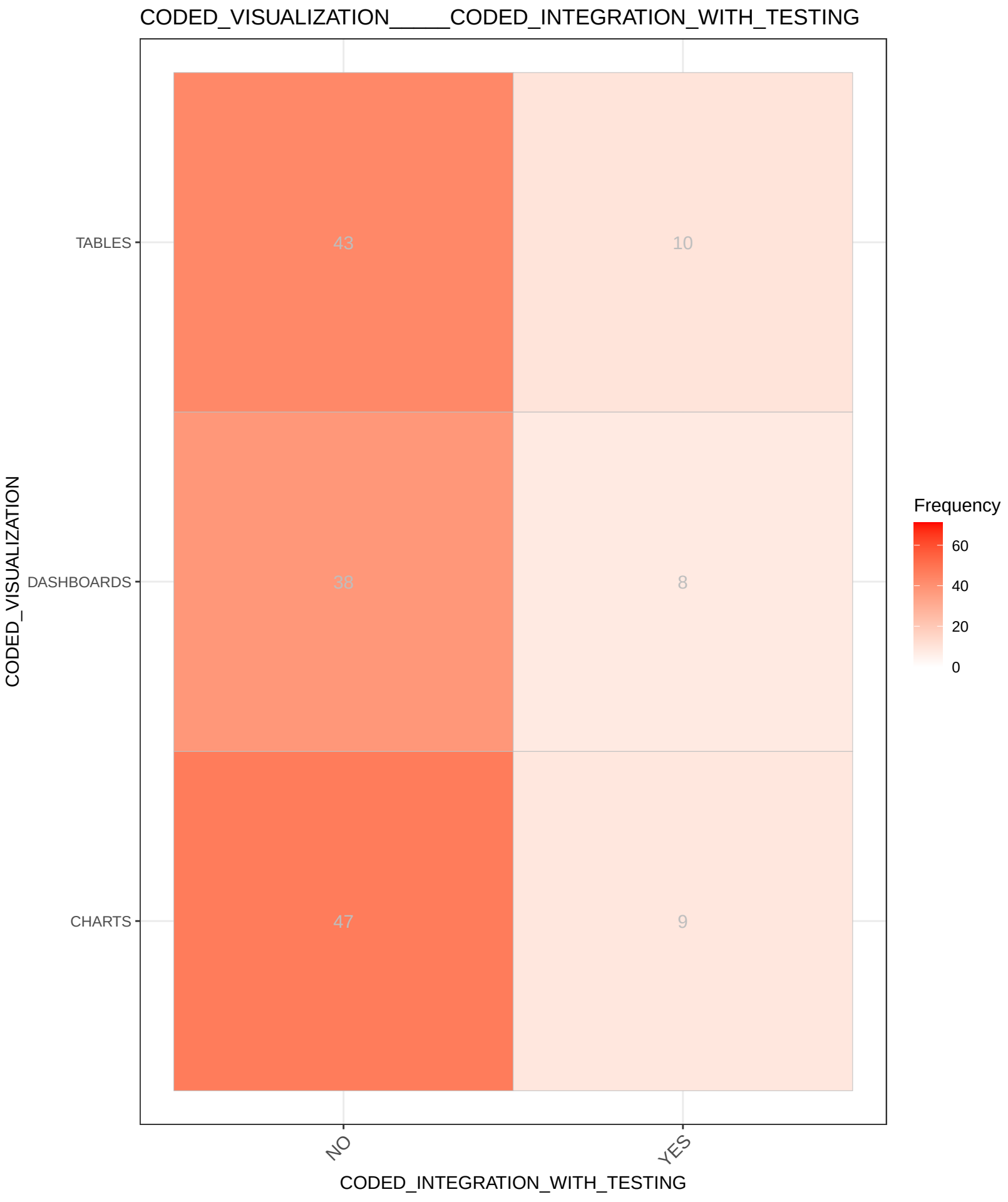

CODED_VISUALIZATION_____CODED_TARGET_QUALITY_ATTRIBUTE
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
1 3 1 0 49 41 14 7 3
1 3 1 0 45 36 13 7 2
1 3 1 0 55 43 15 7 2
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0

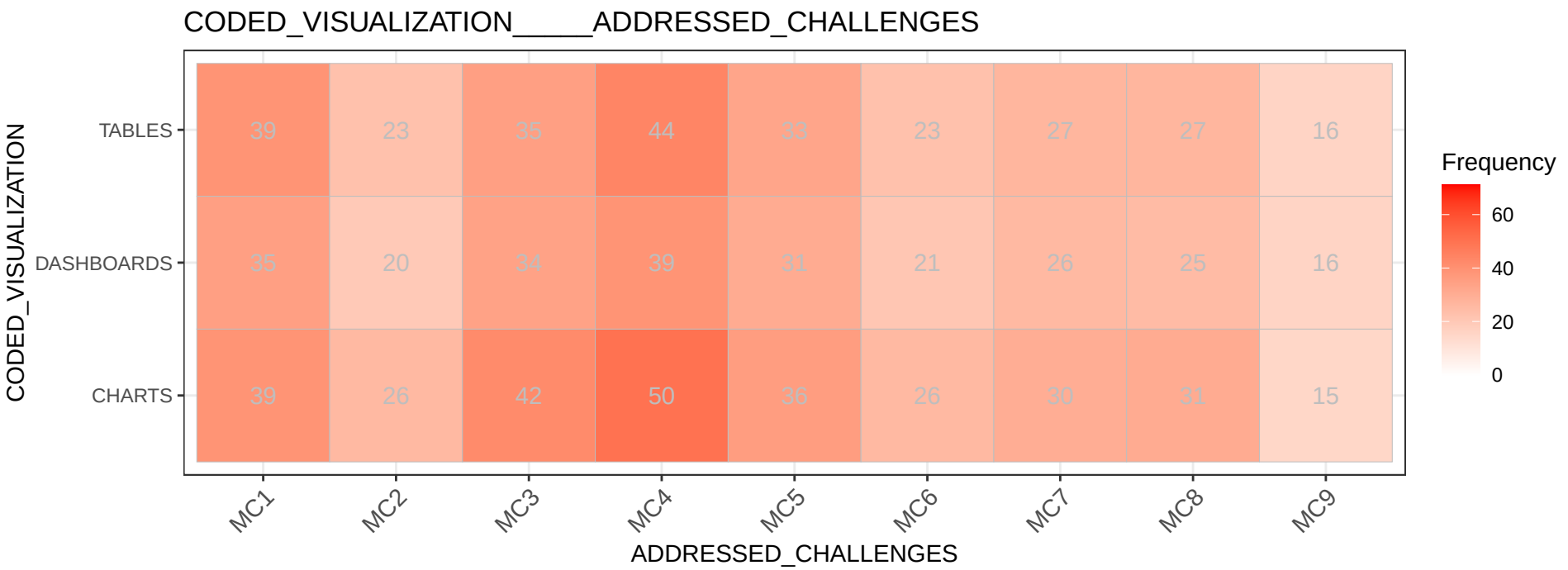

CODED_VISUALIZATION_____MONITORING_PATTERN
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
37
23
19
23
28
32
32
23
17
20
24
33
38
25
24
25
28
36
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
40
20
0


CODED_VISUALIZATION_____MONITORING_GRANULARITY
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
33
48
32
34
34
40
30
33
37
49
35
39
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


CODED_VISUALIZATION_____MONITORING_PRACTICES
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
20 1 8 18 2 25 27 1 5 24 4 26
20 1 8 16 0 20 24 1 6 25 2 21
23 1 9 23 0 26 29 1 6 27 3 27
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0


CODED_VISUALIZATION_____INSTRUMENTATION
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
1
29
29
30
44
0
29
29
24
39
0
33
33
31
49
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


CODED_VISUALIZATION_____CODED_INTEGRATION_WITH_TESTING
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
43
10
38
8
47
9
NO
YES
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0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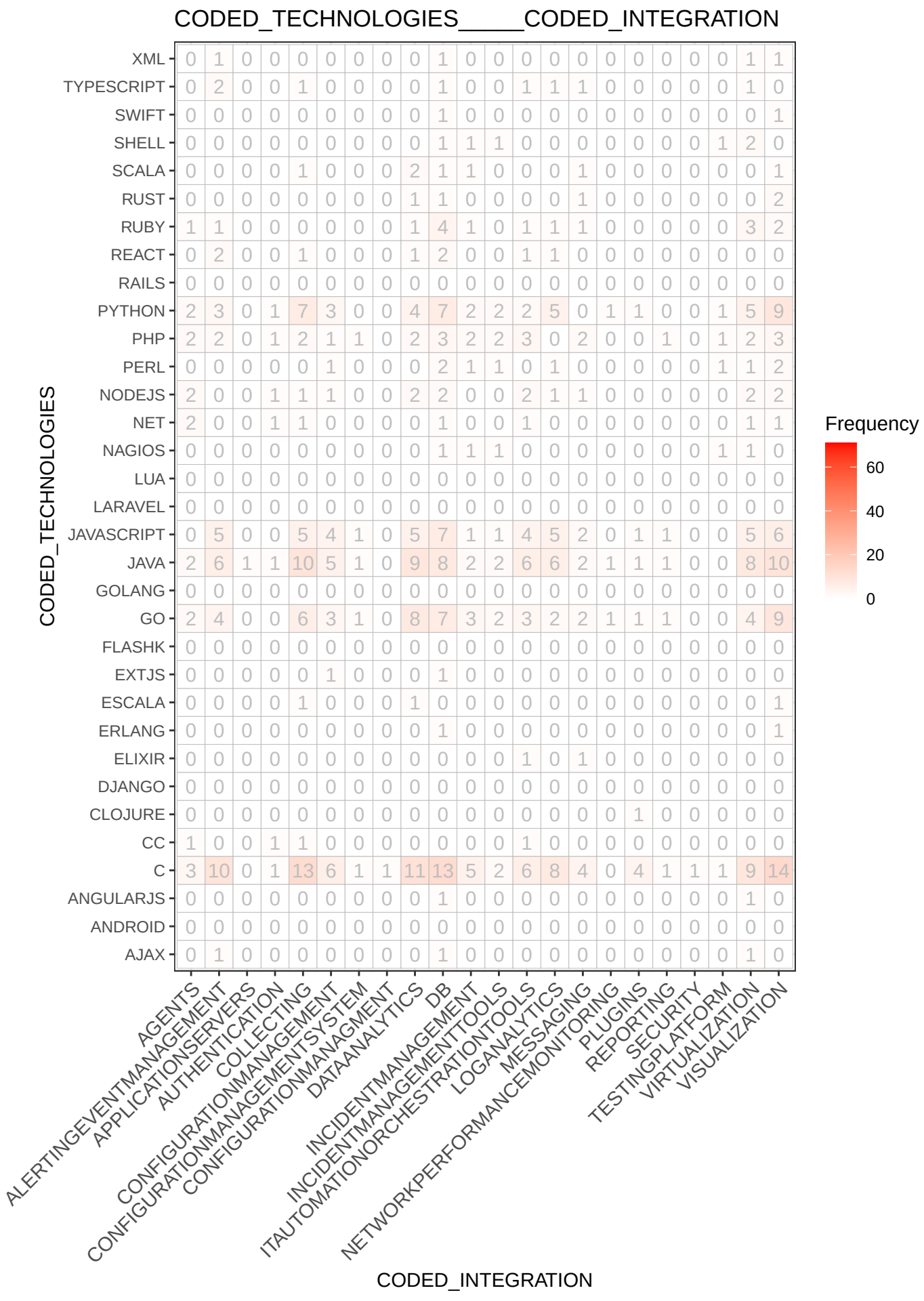
CODED_VISUALIZATION
TABLES
DASHBOARDS
CHARTS
39 23 35 44 33 23 27 27 16
35 20 34 39 31 21 26 25 16
39 26 42 50 36 26 30 31 15
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0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TYPESCRIPT 0 2 0 0 1 0 0 0 0 1 0 0 1 1 1 0 0 0 0 0 1 0
SWIFT 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1
SHELL 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 1 2 0
SCALA 0 0 0 0 1 0 0 0 2 1 1 0 0 0 1 0 0 0 0 0 0 1
RUST 0 0 0 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 0 2
RUBY 1 1 0 0 0 0 0 0 1 4 1 0 1 1 1 0 0 0 0 0 3 2
REACT 0 2 0 0 1 0 0 0 1 2 0 0 1 1 0 0 0 0 0 0 0 0
RAILS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PYTHON 2 3 0 1 7 3 0 0 4 7 2 2 2 5 0 1 1 0 0 1 5 9
PHP 2 2 0 1 2 1 1 0 2 3 2 2 3 0 2 0 0 1 0 1 2 3
PERL 0 0 0 0 0 1 0 0 0 2 1 1 0 1 0 0 0 0 0 1 1 2
NODEJS 2 0 0 1 1 1 0 0 2 2 0 0 2 1 1 0 0 0 0 0 2 2
NET 2 0 0 1 1 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 1 1
NAGIOS 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 1 1 0
LUA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LARAVEL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
JAVASCRIPT 0 5 0 0 5 4 1 0 5 7 1 1 4 5 2 0 1 1 0 0 5 6
JAVA 2 6 1 1 10 5 1 0 9 8 2 2 6 6 2 1 1 1 0 0 8 10
GOLANG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GO 2 4 0 0 6 3 1 0 8 7 3 2 3 2 2 1 1 1 0 0 4 9
FLASHK 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
EXTJS 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
ESCALA 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1
ERLANG 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1
ELIXIR 0 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0
DJANGO 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
CLOJURE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0
CC 1 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
C 3 10 0 1 13 6 1 1 11 13 5 2 6 8 4 0 4 1 1 1 9 14
ANGULARJS 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0
ANDROID 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AJAX 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0
AGENTS
ALERTINGEVENTMANAGEMENT
APPLICATIONSERVERS
AUTHENTICATION
COLLECTING
CONFIGURATIONMANAGEMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGMENT
DATAANALYTICS
DB
INCIDENTMANAGEMENT
INCIDENTMANAGEMENTTOOLS
ITAUTOMATIONORCHESTRATIONTOOLS
LOGANALYTICS
MESSAGING
NETWORKPERFORMANCEMONITORING
PLUGINS
REPORTING
SECURITY
TESTINGPLATFORM
VIRTUALIZATION
VISUALIZATION
CODED_INTEGRATION
Frequency
60
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20
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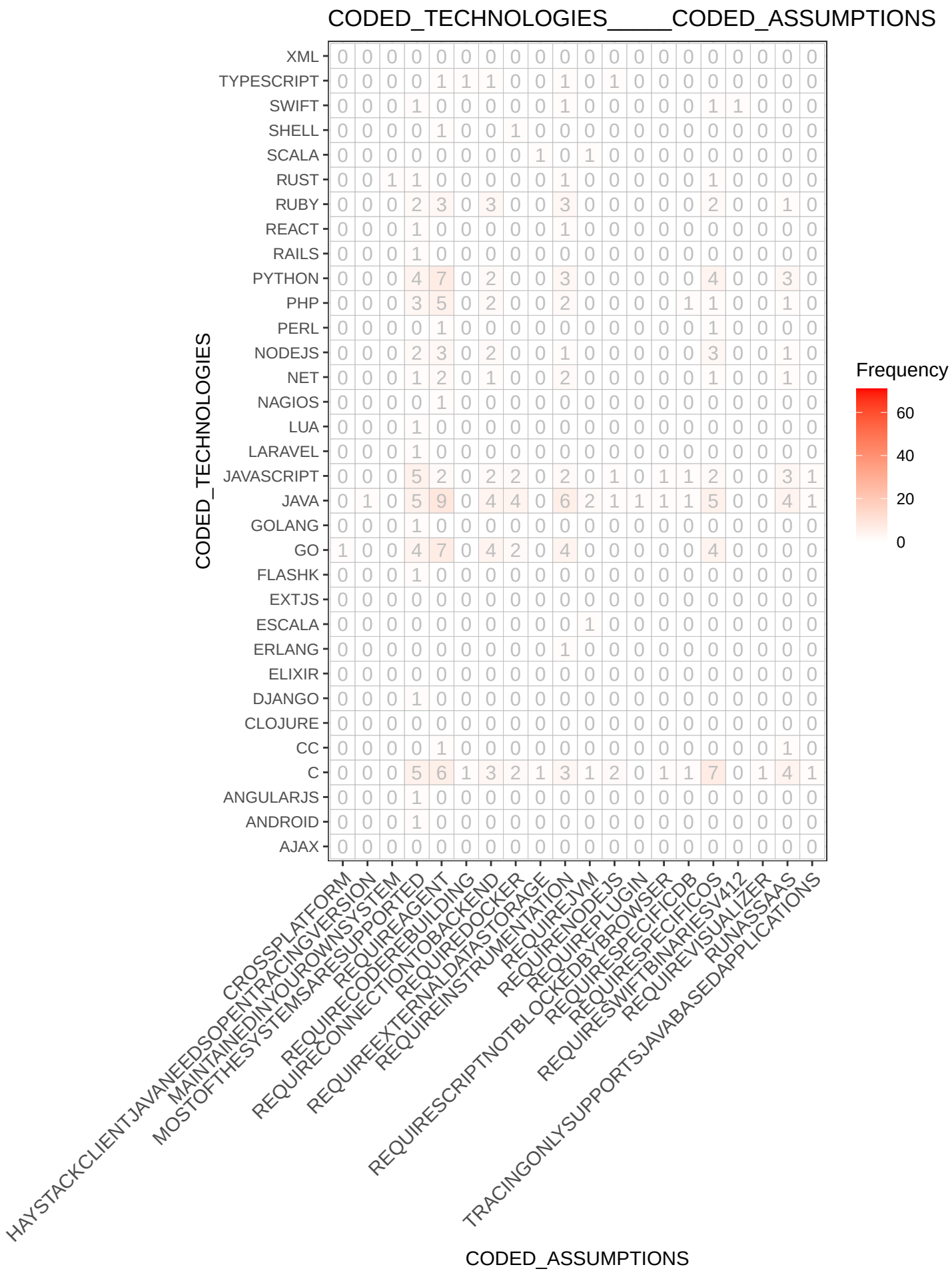
CODED_TECHNOLOGIES_____CODED_ASSUMPTIONS
CODED_TECHNOLOGIES
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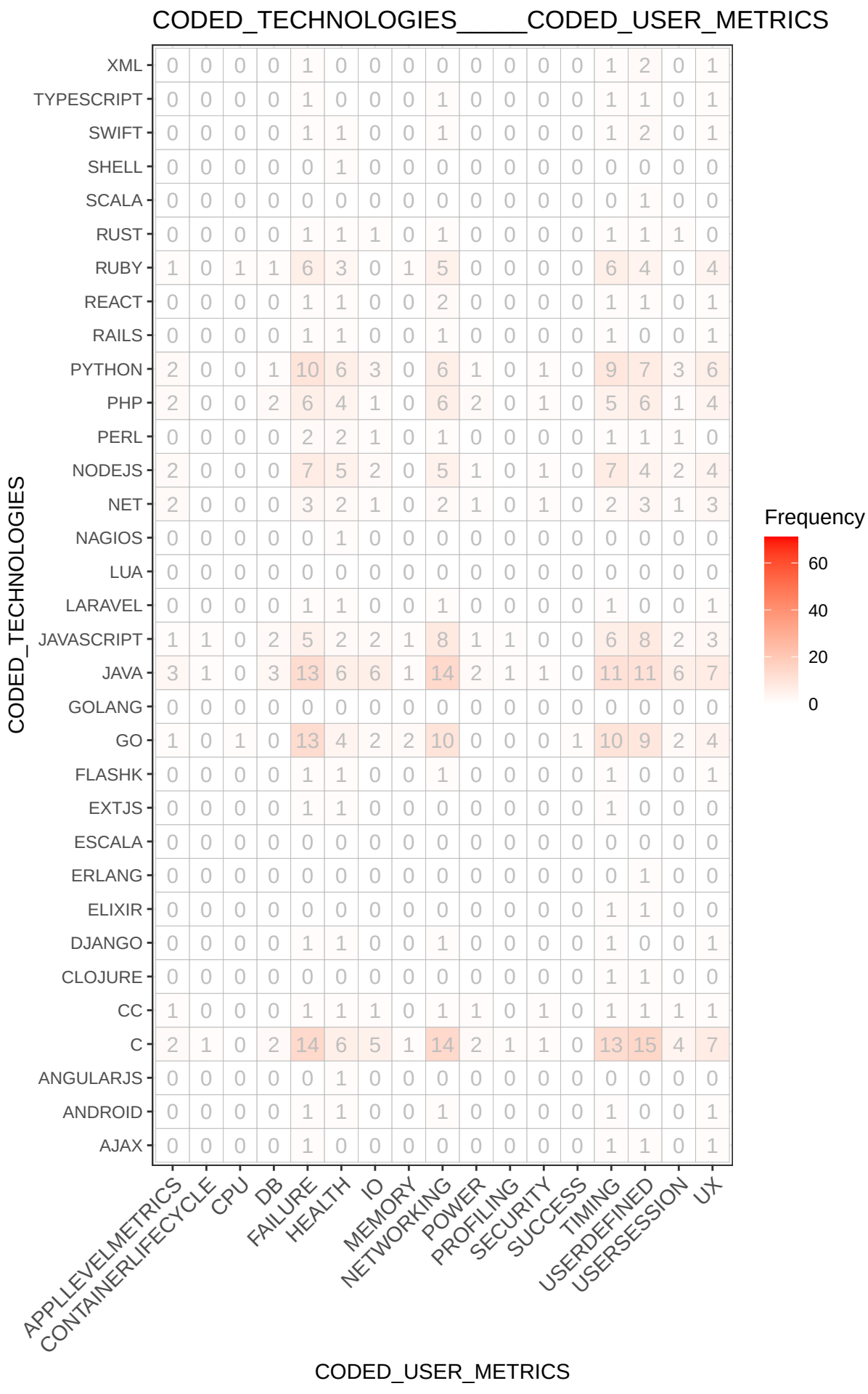
SWIFT 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 1 0 0 0
SHELL 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
SCALA 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0
RUST 0 0 1 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0
RUBY 0 0 0 2 3 0 3 0 0 3 0 0 0 0 0 2 0 0 1 0
REACT 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
RAILS 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PYTHON 0 0 0 4 7 0 2 0 0 3 0 0 0 0 0 4 0 0 3 0
PHP 0 0 0 3 5 0 2 0 0 2 0 0 0 0 1 1 0 0 1 0
PERL 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
NODEJS 0 0 0 2 3 0 2 0 0 1 0 0 0 0 0 3 0 0 1 0
NET 0 0 0 1 2 0 1 0 0 2 0 0 0 0 0 1 0 0 1 0
NAGIOS 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LUA 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LARAVEL 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
JAVASCRIPT 0 0 0 5 2 0 2 2 0 2 0 1 0 1 1 2 0 0 3 1
JAVA 0 1 0 5 9 0 4 4 0 6 2 1 1 1 1 5 0 0 4 1
GOLANG 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GO 1 0 0 4 7 0 4 2 0 4 0 0 0 0 0 4 0 0 0 0
FLASHK 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
EXTJS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ESCALA 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
ERLANG 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
ELIXIR 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
DJANGO 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
CLOJURE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
CC 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
C 0 0 0 5 6 1 3 2 1 3 1 2 0 1 1 7 0 1 4 1
ANGULARJS 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ANDROID 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
AJAX 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
RUNASSAAS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
CODED_ASSUMPTIONS
Frequency
60
40
20
0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CODED_TECHNOLOGIES
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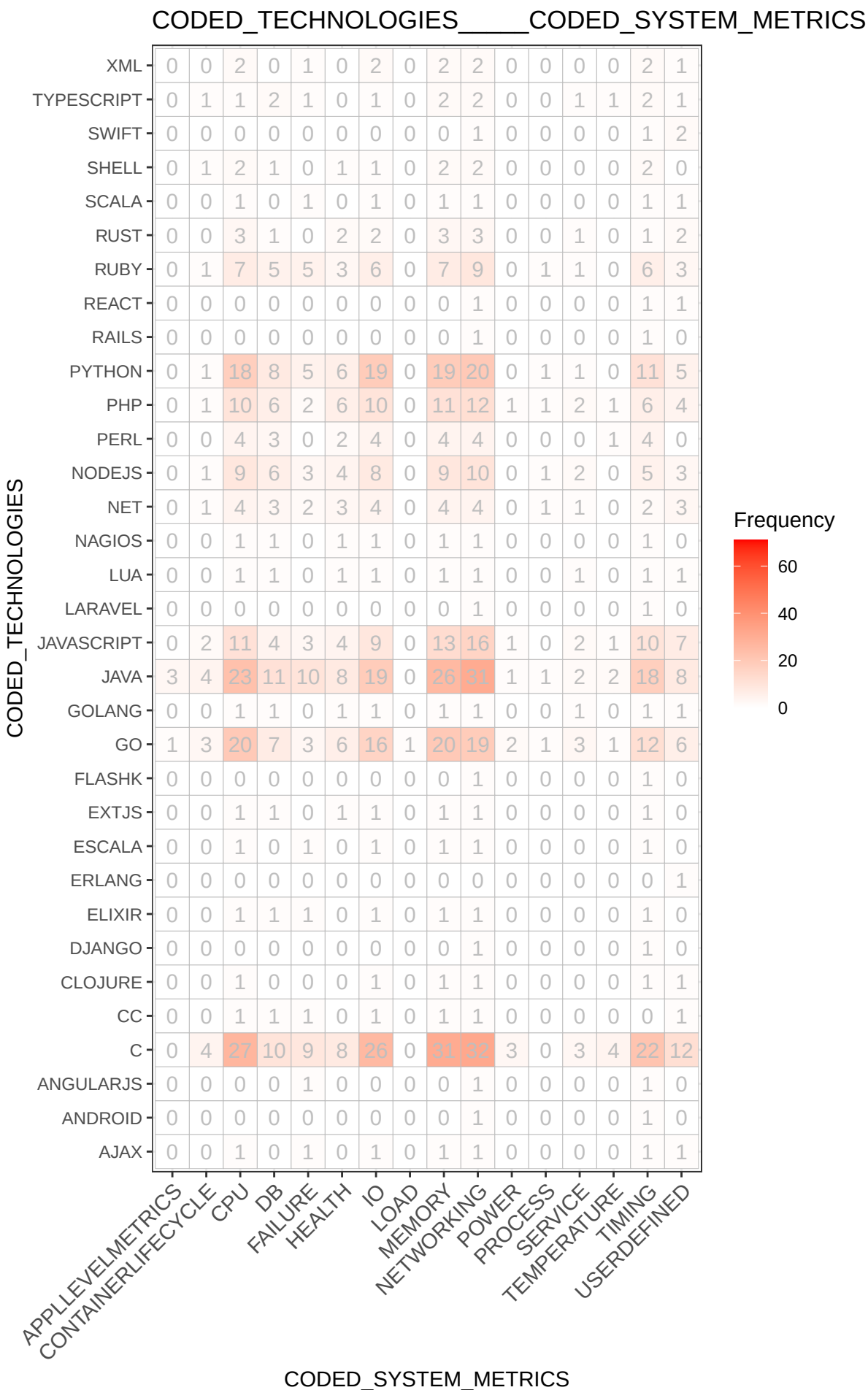
SWIFT 0 0 0 0 1 1 0 0 1 0 0 0 0 1 2 0 1
SHELL 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
SCALA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
RUST 0 0 0 0 1 1 1 0 1 0 0 0 0 1 1 1 0
RUBY 1 0 1 1 6 3 0 1 5 0 0 0 0 6 4 0 4
REACT 0 0 0 0 1 1 0 0 2 0 0 0 0 1 1 0 1
RAILS 0 0 0 0 1 1 0 0 1 0 0 0 0 1 0 0 1
PYTHON 2 0 0 1 10 6 3 0 6 1 0 1 0 9 7 3 6
PHP 2 0 0 2 6 4 1 0 6 2 0 1 0 5 6 1 4
PERL 0 0 0 0 2 2 1 0 1 0 0 0 0 1 1 1 0
NODEJS 2 0 0 0 7 5 2 0 5 1 0 1 0 7 4 2 4
NET 2 0 0 0 3 2 1 0 2 1 0 1 0 2 3 1 3
NAGIOS 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
LUA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
LARAVEL 0 0 0 0 1 1 0 0 1 0 0 0 0 1 0 0 1
JAVASCRIPT 1 1 0 2 5 2 2 1 8 1 1 0 0 6 8 2 3
JAVA 3 1 0 3 13 6 6 1 14 2 1 1 0 11 11 6 7
GOLANG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
GO 1 0 1 0 13 4 2 2 10 0 0 0 1 10 9 2 4
FLASHK 0 0 0 0 1 1 0 0 1 0 0 0 0 1 0 0 1
EXTJS 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0 0
ESCALA 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ERLANG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
ELIXIR 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0
DJANGO 0 0 0 0 1 1 0 0 1 0 0 0 0 1 0 0 1
CLOJURE 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 0 0
CC 1 0 0 0 1 1 1 0 1 1 0 1 0 1 1 1 1
C 2 1 0 2 14 6 5 1 14 2 1 1 0 13 15 4 7
ANGULARJS 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0
ANDROID 0 0 0 0 1 1 0 0 1 0 0 0 0 1 0 0 1
AJAX 0 0 0 0 1 0 0 0 0 0 0 0 0 1 1 0 1
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0


CODED_TECHNOLOGIES_____CODED_SYSTEM_METRICS
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SWIFT 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 2
SHELL 0 1 2 1 0 1 1 0 2 2 0 0 0 0 2 0
SCALA 0 0 1 0 1 0 1 0 1 1 0 0 0 0 1 1
RUST 0 0 3 1 0 2 2 0 3 3 0 0 1 0 1 2
RUBY 0 1 7 5 5 3 6 0 7 9 0 1 1 0 6 3
REACT 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 1
RAILS 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0
PYTHON 0 1 18 8 5 6 19 0 19 20 0 1 1 0 11 5
PHP 0 1 10 6 2 6 10 0 11 12 1 1 2 1 6 4
PERL 0 0 4 3 0 2 4 0 4 4 0 0 0 1 4 0
NODEJS 0 1 9 6 3 4 8 0 9 10 0 1 2 0 5 3
NET 0 1 4 3 2 3 4 0 4 4 0 1 1 0 2 3
NAGIOS 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
LUA 0 0 1 1 0 1 1 0 1 1 0 0 1 0 1 1
LARAVEL 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0
JAVASCRIPT 0 2 11 4 3 4 9 0 13 16 1 0 2 1 10 7
JAVA 3 4 23 11 10 8 19 0 26 31 1 1 2 2 18 8
GOLANG 0 0 1 1 0 1 1 0 1 1 0 0 1 0 1 1
GO 1 3 20 7 3 6 16 1 20 19 2 1 3 1 12 6
FLASHK 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0
EXTJS 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
ESCALA 0 0 1 0 1 0 1 0 1 1 0 0 0 0 1 0
ERLANG 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
ELIXIR 0 0 1 1 1 0 1 0 1 1 0 0 0 0 1 0
DJANGO 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0
CLOJURE 0 0 1 0 0 0 1 0 1 1 0 0 0 0 1 1
CC 0 0 1 1 1 0 1 0 1 1 0 0 0 0 0 1
C 0 4 27 10 9 8 26 0 31 32 3 0 3 4 22 12
ANGULARJS 0 0 0 0 1 0 0 0 0 1 0 0 0 0 1 0
ANDROID 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0
AJAX 0 0 1 0 1 0 1 0 1 1 0 0 0 0 1 1
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
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40
20
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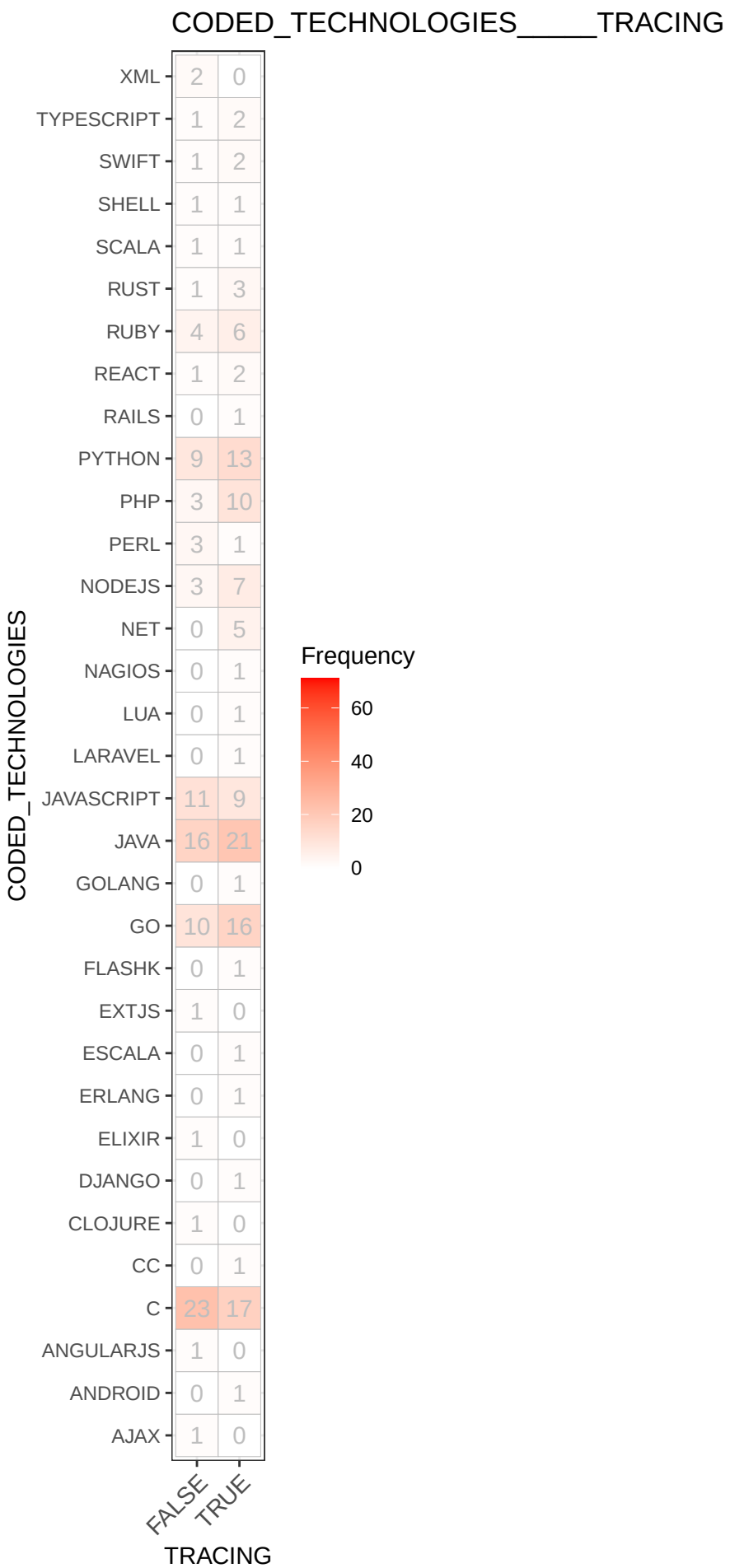
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SWIFT 1 2
SHELL 1 1
SCALA 1 1
RUST 1 3
RUBY 4 6
REACT 1 2
RAILS 0 1
PYTHON 9 13
PHP 3 10
PERL 3 1
NODEJS 3 7
NET 0 5
NAGIOS 0 1
LUA 0 1
LARAVEL 0 1
JAVASCRIPT 11 9
JAVA 16 21
GOLANG 0 1
GO 10 16
FLASHK 0 1
EXTJS 1 0
ESCALA 0 1
ERLANG 0 1
ELIXIR 1 0
DJANGO 0 1
CLOJURE 1 0
CC 0 1
C 23 17
ANGULARJS 1 0
ANDROID 0 1
AJAX 1 0
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TRUE
TRACING
Frequency
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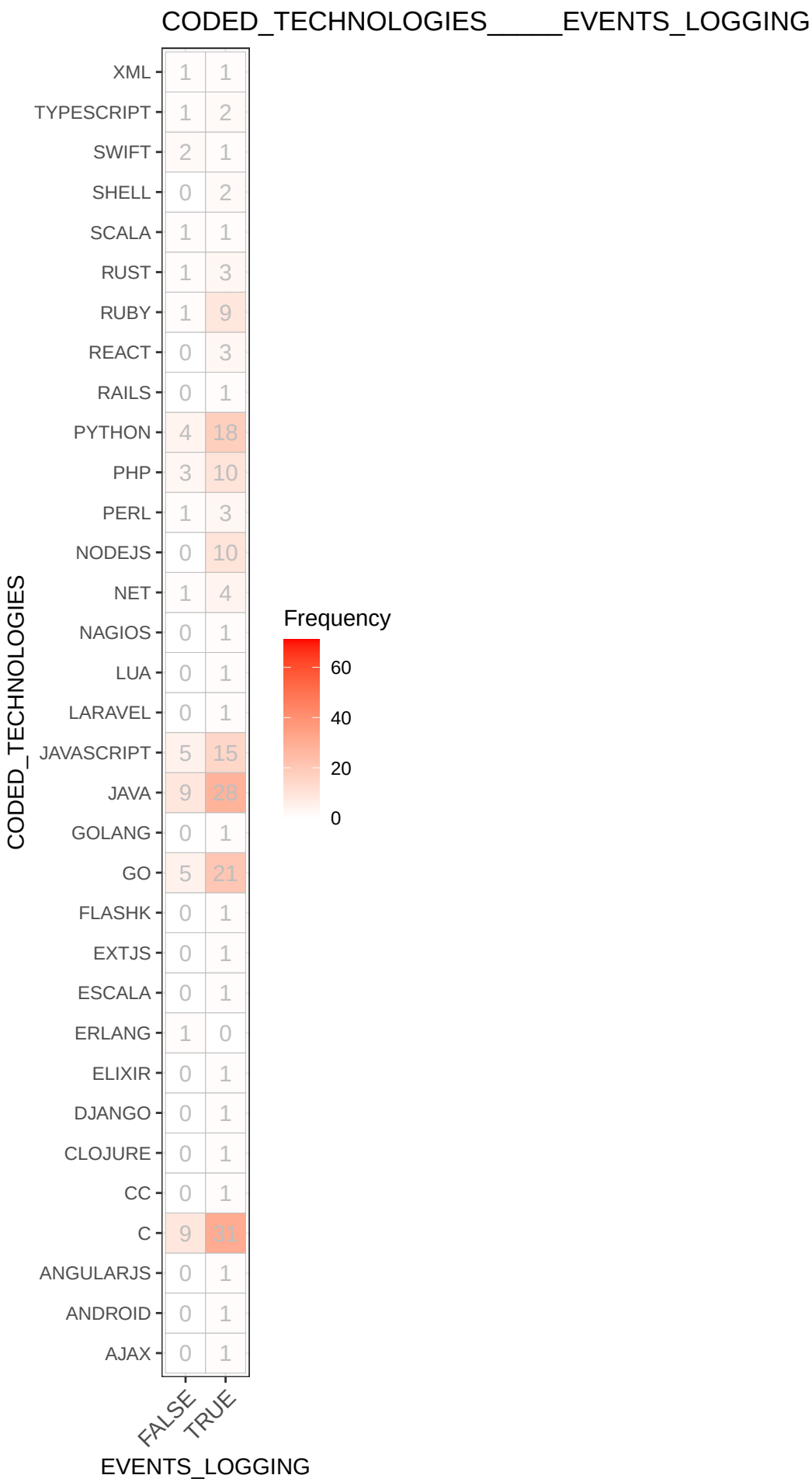
40
20
0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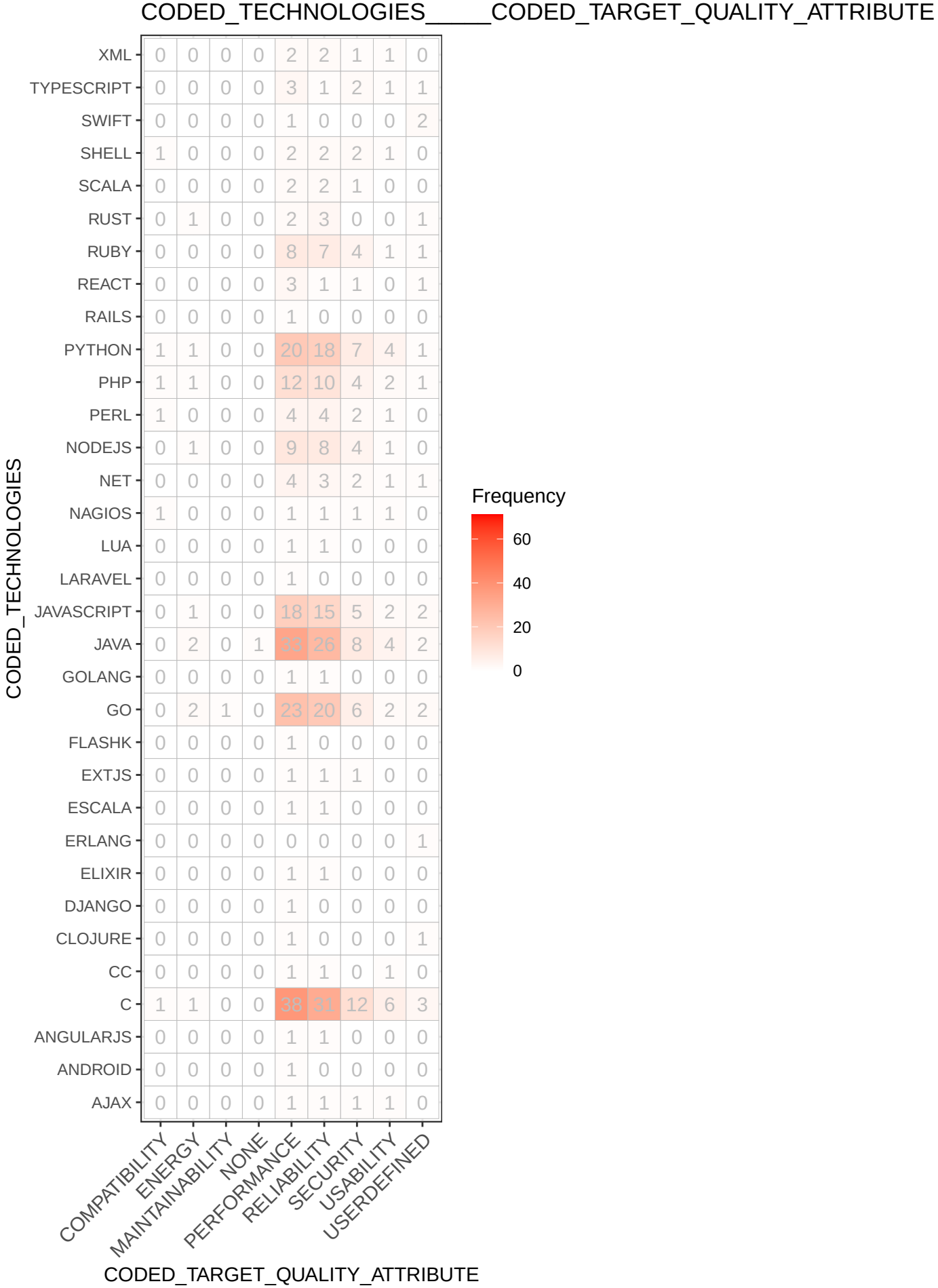
SWIFT 2 1
SHELL 0 2
SCALA 1 1
RUST 1 3
RUBY 1 9
REACT 0 3
RAILS 0 1
PYTHON 4 18
PHP 3 10
PERL 1 3
NODEJS 0 10
NET 1 4
NAGIOS 0 1
LUA 0 1
LARAVEL 0 1
JAVASCRIPT 5 15
JAVA 9 28
GOLANG 0 1
GO 5 21
FLASHK 0 1
EXTJS 0 1
ESCALA 0 1
ERLANG 1 0
ELIXIR 0 1
DJANGO 0 1
CLOJURE 0 1
CC 0 1
C 9 31
ANGULARJS 0 1
ANDROID 0 1
AJAX 0 1
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0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SHELL 1 0 0 0 2 2 2 1 0
SCALA 0 0 0 0 2 2 1 0 0
RUST 0 1 0 0 2 3 0 0 1
RUBY 0 0 0 0 8 7 4 1 1
REACT 0 0 0 0 3 1 1 0 1
RAILS 0 0 0 0 1 0 0 0 0
PYTHON 1 1 0 0 20 18 7 4 1
PHP 1 1 0 0 12 10 4 2 1
PERL 1 0 0 0 4 4 2 1 0
NODEJS 0 1 0 0 9 8 4 1 0
NET 0 0 0 0 4 3 2 1 1
NAGIOS 1 0 0 0 1 1 1 1 0
LUA 0 0 0 0 1 1 0 0 0
LARAVEL 0 0 0 0 1 0 0 0 0
JAVASCRIPT 0 1 0 0 18 15 5 2 2
JAVA 0 2 0 1 33 26 8 4 2
GOLANG 0 0 0 0 1 1 0 0 0
GO 0 2 1 0 23 20 6 2 2
FLASHK 0 0 0 0 1 0 0 0 0
EXTJS 0 0 0 0 1 1 1 0 0
ESCALA 0 0 0 0 1 1 0 0 0
ERLANG 0 0 0 0 0 0 0 0 1
ELIXIR 0 0 0 0 1 1 0 0 0
DJANGO 0 0 0 0 1 0 0 0 0
CLOJURE 0 0 0 0 1 0 0 0 1
CC 0 0 0 0 1 1 0 1 0
C 1 1 0 0 38 31 12 6 3
ANGULARJS 0 0 0 0 1 1 0 0 0
ANDROID 0 0 0 0 1 0 0 0 0
AJAX 0 0 0 0 1 1 1 1 0
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
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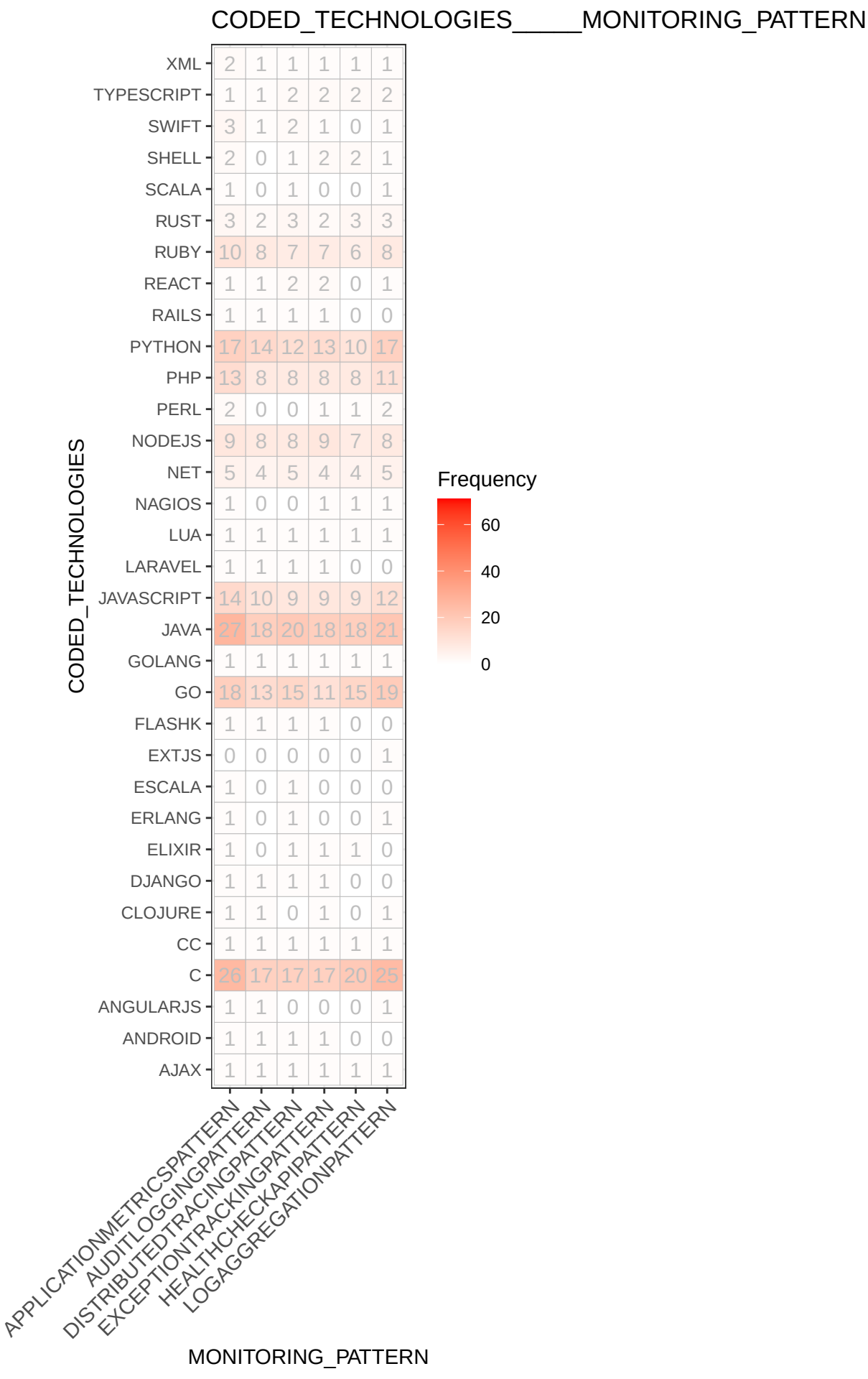
40
20
0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SHELL 2 0 1 2 2 1
SCALA 1 0 1 0 0 1
RUST 3 2 3 2 3 3
RUBY 10 8 7 7 6 8
REACT 1 1 2 2 0 1
RAILS 1 1 1 1 0 0
PYTHON 17 14 12 13 10 17
PHP 13 8 8 8 8 11
PERL 2 0 0 1 1 2
NODEJS 9 8 8 9 7 8
NET 5 4 5 4 4 5
NAGIOS 1 0 0 1 1 1
LUA 1 1 1 1 1 1
LARAVEL 1 1 1 1 0 0
JAVASCRIPT 14 10 9 9 9 12
JAVA 27 18 20 18 18 21
GOLANG 1 1 1 1 1 1
GO 18 13 15 11 15 19
FLASHK 1 1 1 1 0 0
EXTJS 0 0 0 0 0 1
ESCALA 1 0 1 0 0 0
ERLANG 1 0 1 0 0 1
ELIXIR 1 0 1 1 1 0
DJANGO 1 1 1 1 0 0
CLOJURE 1 1 0 1 0 1
CC 1 1 1 1 1 1
C 26 17 17 17 20 25
ANGULARJS 1 1 0 0 0 1
ANDROID 1 1 1 1 0 0
AJAX 1 1 1 1 1 1
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
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40
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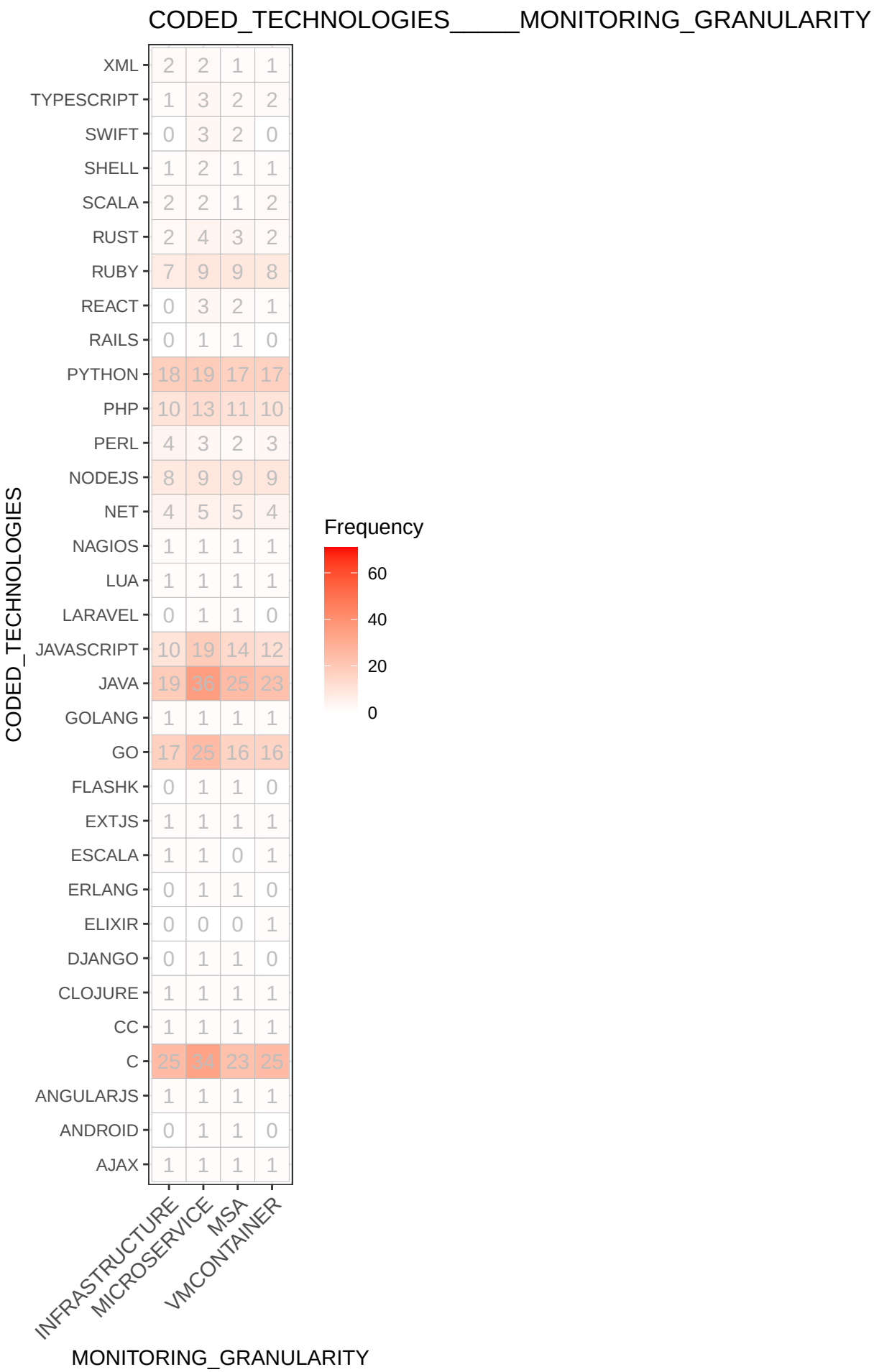
CODED_TECHNOLOGIES_____MONITORING_GRANULARITY
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SWIFT 0 3 2 0
SHELL 1 2 1 1
SCALA 2 2 1 2
RUST 2 4 3 2
RUBY 7 9 9 8
REACT 0 3 2 1
RAILS 0 1 1 0
PYTHON 18 19 17 17
PHP 10 13 11 10
PERL 4 3 2 3
NODEJS 8 9 9 9
NET 4 5 5 4
NAGIOS 1 1 1 1
LUA 1 1 1 1
LARAVEL 0 1 1 0
JAVASCRIPT 10 19 14 12
JAVA 19 36 25 23
GOLANG 1 1 1 1
GO 17 25 16 16
FLASHK 0 1 1 0
EXTJS 1 1 1 1
ESCALA 1 1 0 1
ERLANG 0 1 1 0
ELIXIR 0 0 0 1
DJANGO 0 1 1 0
CLOJURE 1 1 1 1
CC 1 1 1 1
C 25 34 23 25
ANGULARJS 1 1 1 1
ANDROID 0 1 1 0
AJAX 1 1 1 1
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
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20
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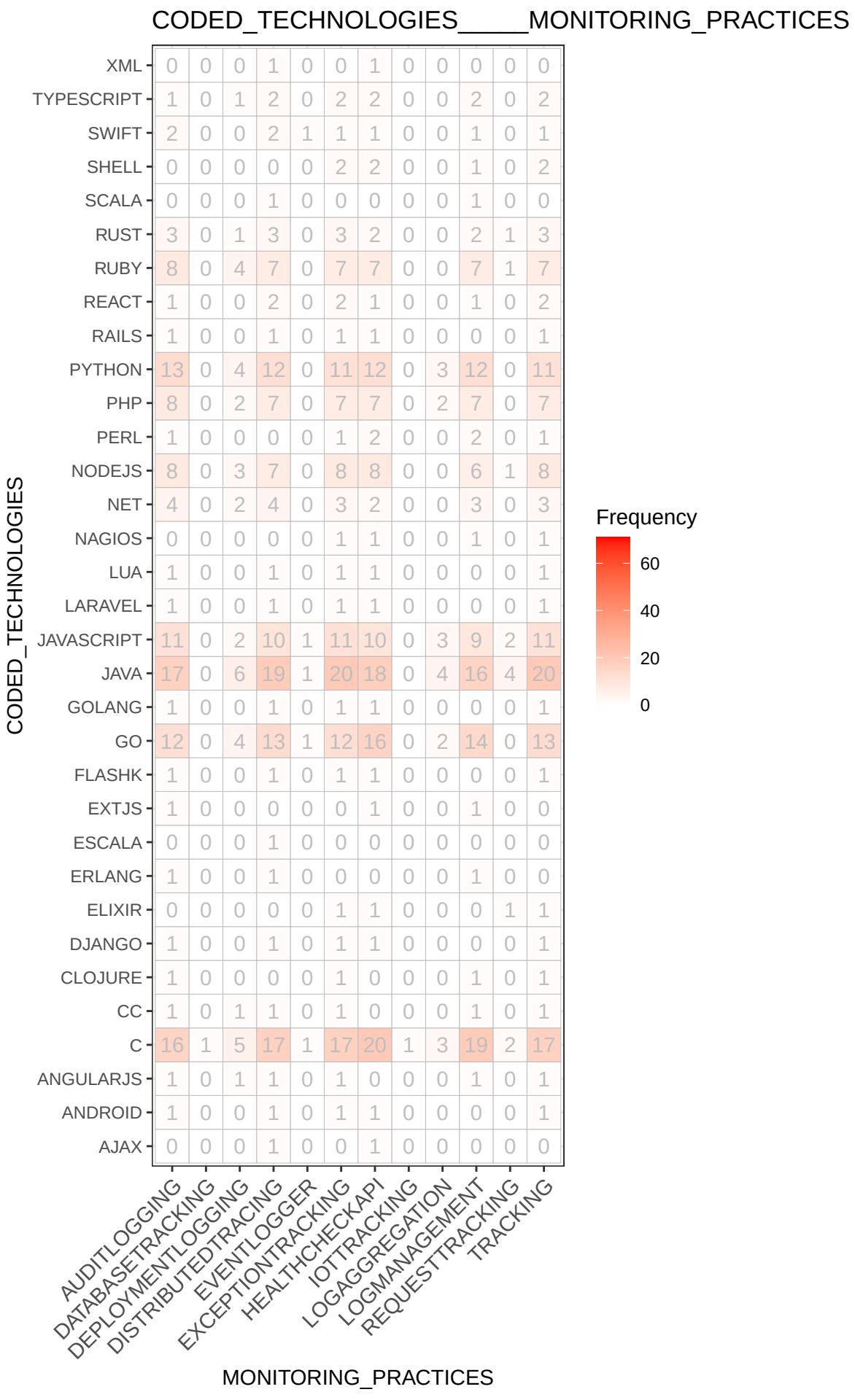
CODED_TECHNOLOGIES_____MONITORING_PRACTICES
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SWIFT 2 0 0 2 1 1 1 0 0 1 0 1
SHELL 0 0 0 0 0 2 2 0 0 1 0 2
SCALA 0 0 0 1 0 0 0 0 0 1 0 0
RUST 3 0 1 3 0 3 2 0 0 2 1 3
RUBY 8 0 4 7 0 7 7 0 0 7 1 7
REACT 1 0 0 2 0 2 1 0 0 1 0 2
RAILS 1 0 0 1 0 1 1 0 0 0 0 1
PYTHON 13 0 4 12 0 11 12 0 3 12 0 11
PHP 8 0 2 7 0 7 7 0 2 7 0 7
PERL 1 0 0 0 0 1 2 0 0 2 0 1
NODEJS 8 0 3 7 0 8 8 0 0 6 1 8
NET 4 0 2 4 0 3 2 0 0 3 0 3
NAGIOS 0 0 0 0 0 1 1 0 0 1 0 1
LUA 1 0 0 1 0 1 1 0 0 0 0 1
LARAVEL 1 0 0 1 0 1 1 0 0 0 0 1
JAVASCRIPT 11 0 2 10 1 11 10 0 3 9 2 11
JAVA 17 0 6 19 1 20 18 0 4 16 4 20
GOLANG 1 0 0 1 0 1 1 0 0 0 0 1
GO 12 0 4 13 1 12 16 0 2 14 0 13
FLASHK 1 0 0 1 0 1 1 0 0 0 0 1
EXTJS 1 0 0 0 0 0 1 0 0 1 0 0
ESCALA 0 0 0 1 0 0 0 0 0 0 0 0
ERLANG 1 0 0 1 0 0 0 0 0 1 0 0
ELIXIR 0 0 0 0 0 1 1 0 0 0 1 1
DJANGO 1 0 0 1 0 1 1 0 0 0 0 1
CLOJURE 1 0 0 0 0 1 0 0 0 1 0 1
CC 1 0 1 1 0 1 0 0 0 1 0 1
C 16 1 5 17 1 17 20 1 3 19 2 17
ANGULARJS 1 0 1 1 0 1 0 0 0 1 0 1
ANDROID 1 0 0 1 0 1 1 0 0 0 0 1
AJAX 0 0 0 1 0 0 1 0 0 0 0 0
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
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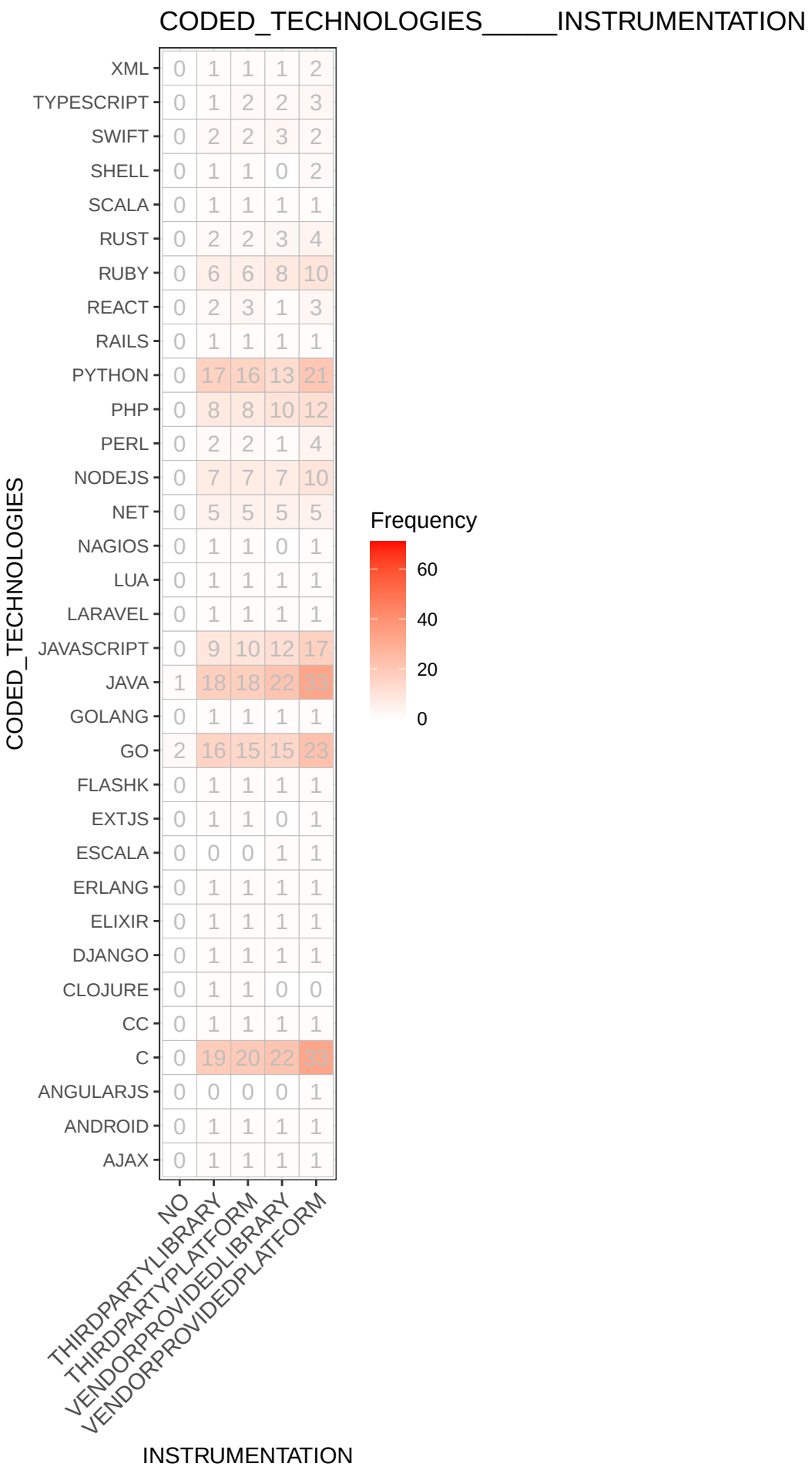
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SCALA 0 1 1 1 1
RUST 0 2 2 3 4
RUBY 0 6 6 8 10
REACT 0 2 3 1 3
RAILS 0 1 1 1 1
PYTHON 0 17 16 13 21
PHP 0 8 8 10 12
PERL 0 2 2 1 4
NODEJS 0 7 7 7 10
NET 0 5 5 5 5
NAGIOS 0 1 1 0 1
LUA 0 1 1 1 1
LARAVEL 0 1 1 1 1
JAVASCRIPT 0 9 10 12 17
JAVA 1 18 18 22 33
GOLANG 0 1 1 1 1
GO 2 16 15 15 23
FLASHK 0 1 1 1 1
EXTJS 0 1 1 0 1
ESCALA 0 0 0 1 1
ERLANG 0 1 1 1 1
ELIXIR 0 1 1 1 1
DJANGO 0 1 1 1 1
CLOJURE 0 1 1 0 0
CC 0 1 1 1 1
C 0 19 20 22 33
ANGULARJS 0 0 0 0 1
ANDROID 0 1 1 1 1
AJAX 0 1 1 1 1
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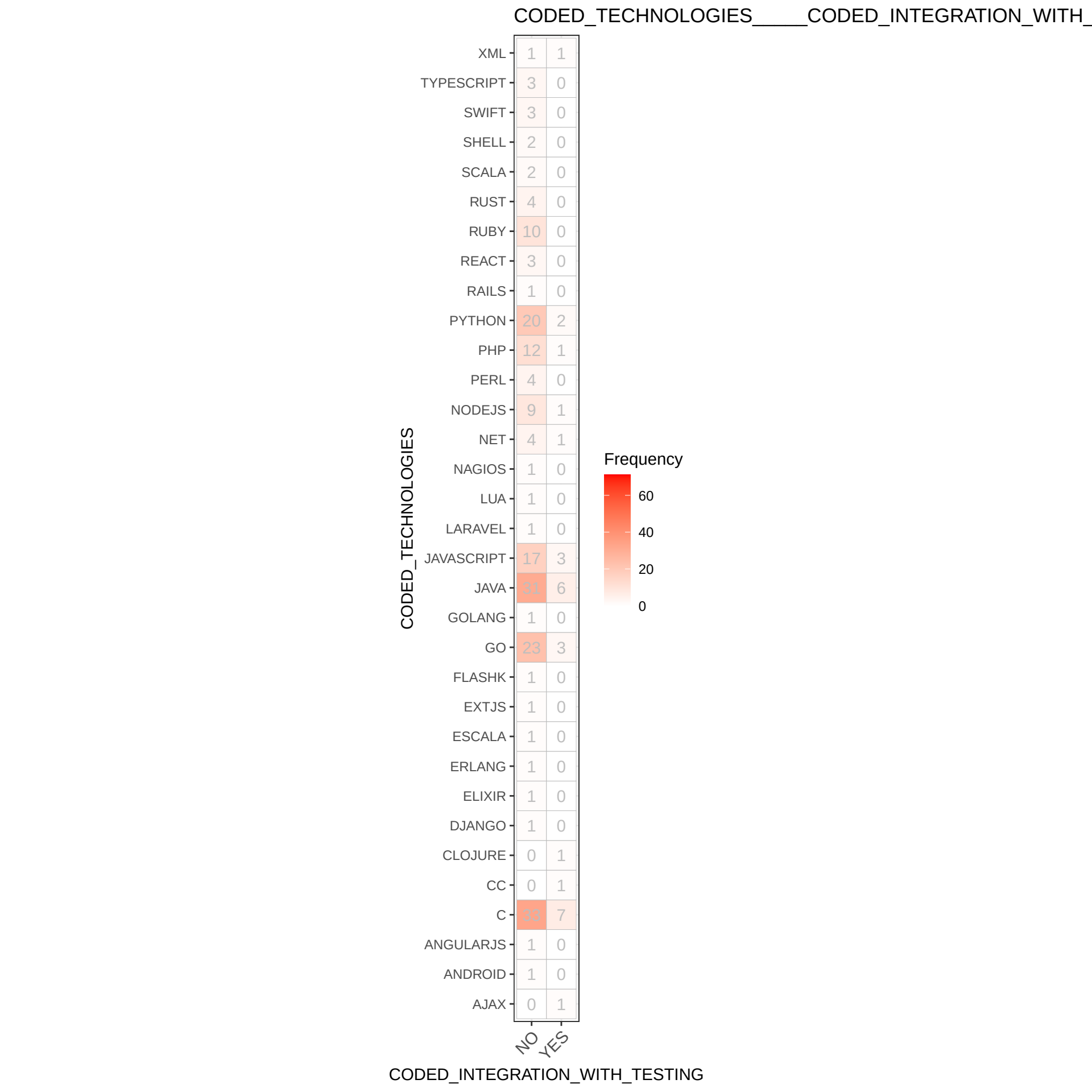
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PHP 12 1
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EXTJS 1 0
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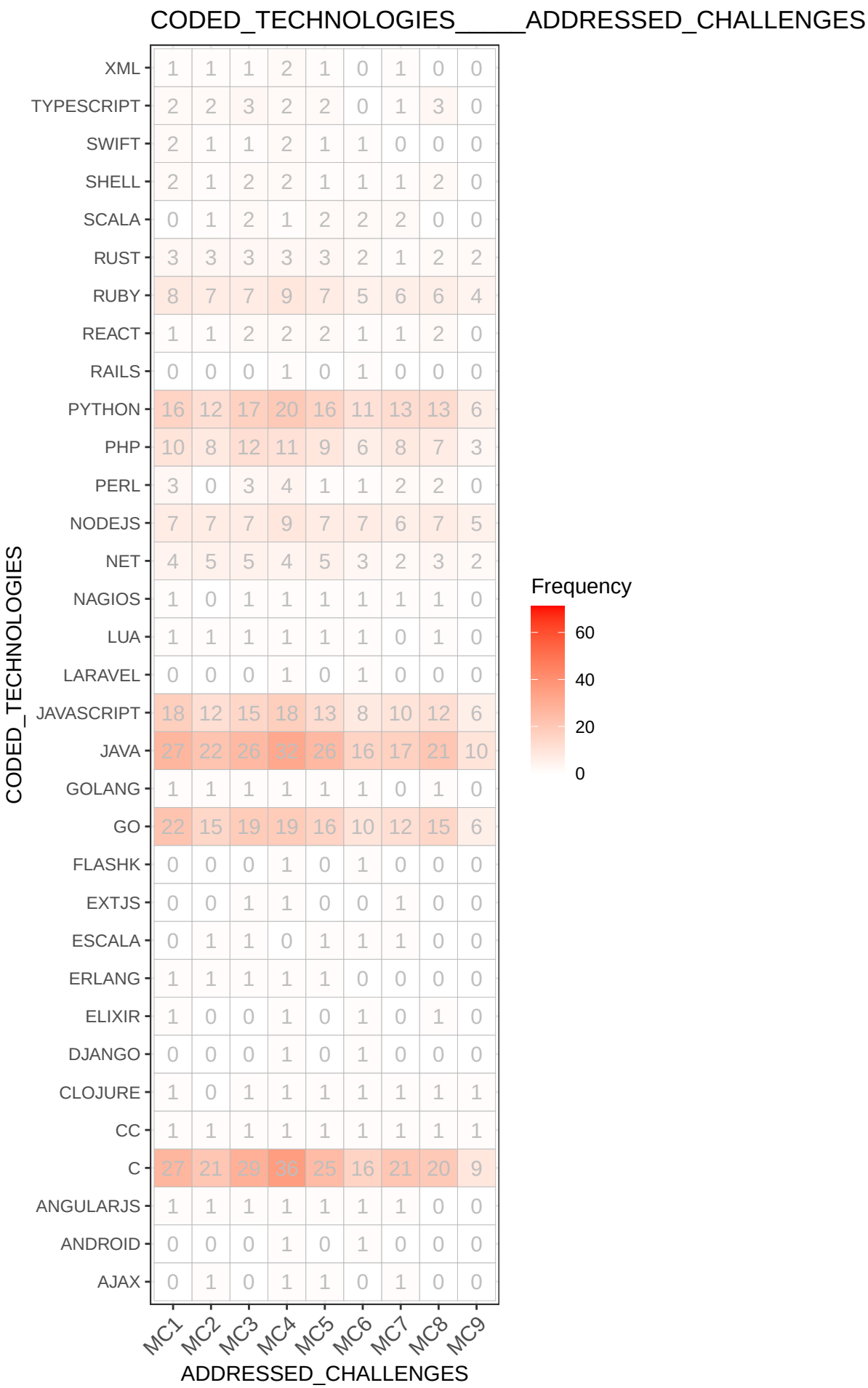
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SHELL 2 1 2 2 1 1 1 2 0
SCALA 0 1 2 1 2 2 2 0 0
RUST 3 3 3 3 3 2 1 2 2
RUBY 8 7 7 9 7 5 6 6 4
REACT 1 1 2 2 2 1 1 2 0
RAILS 0 0 0 1 0 1 0 0 0
PYTHON 16 12 17 20 16 11 13 13 6
PHP 10 8 12 11 9 6 8 7 3
PERL 3 0 3 4 1 1 2 2 0
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NET 4 5 5 4 5 3 2 3 2
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LARAVEL 0 0 0 1 0 1 0 0 0
JAVASCRIPT 18 12 15 18 13 8 10 12 6
JAVA 27 22 26 32 26 16 17 21 10
GOLANG 1 1 1 1 1 1 0 1 0
GO 22 15 19 19 16 10 12 15 6
FLASHK 0 0 0 1 0 1 0 0 0
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ESCALA 0 1 1 0 1 1 1 0 0
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CC 1 1 1 1 1 1 1 1 1
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ANDROID 0 0 0 1 0 1 0 0 0
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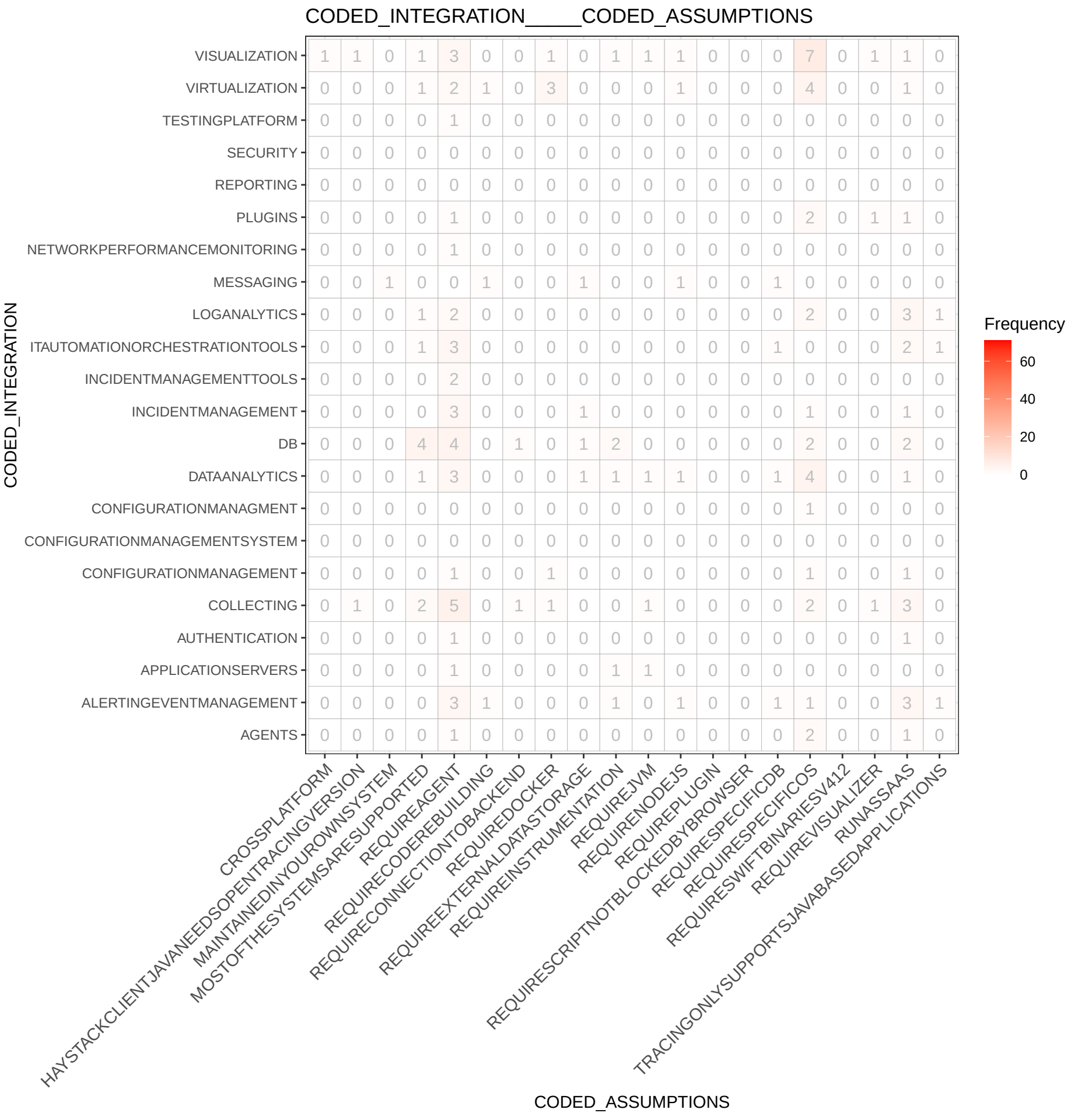
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SECURITY 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
REPORTING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PLUGINS 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 2 0 1 1 0
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MESSAGING 0 0 1 0 0 1 0 0 1 0 0 1 0 0 1 0 0 0 0 0
LOGANALYTICS 0 0 0 1 2 0 0 0 0 0 0 0 0 0 0 2 0 0 3 1
ITAUTOMATIONORCHESTRATIONTOOLS 0 0 0 1 3 0 0 0 0 0 0 0 0 0 1 0 0 0 2 1
INCIDENTMANAGEMENTTOOLS 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
INCIDENTMANAGEMENT 0 0 0 0 3 0 0 0 1 0 0 0 0 0 0 1 0 0 1 0
DB 0 0 0 4 4 0 1 0 1 2 0 0 0 0 0 2 0 0 2 0
DATAANALYTICS 0 0 0 1 3 0 0 0 1 1 1 1 0 0 1 4 0 0 1 0
CONFIGURATIONMANAGMENT 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
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COLLECTING 0 1 0 2 5 0 1 1 0 0 1 0 0 0 0 2 0 1 3 0
AUTHENTICATION 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
APPLICATIONSERVERS 0 0 0 0 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0
ALERTINGEVENTMANAGEMENT 0 0 0 0 3 1 0 0 0 1 0 1 0 0 1 1 0 0 3 1
AGENTS 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 2 0 0 1 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
MAINTAINEDINYOUROWNSYSTEM
MOSTOFTHESYSTEMSARESUPPORTED
REQUIREAGENT
REQUIRECODEREBUILDING
REQUIRECONNECTIONTOBACKEND
REQUIREDOCKER
REQUIREEXTERNALDATASTORAGE
REQUIREINSTRUMENTATION
REQUIREJVM
REQUIRENODEJS
REQUIREPLUGIN
REQUIREDBYBROWSER
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIRESPECIFICDB
REQUIRESPECIFICOS
REQUIRESWIFTBINARIESV412
REQUIREVISUALIZER
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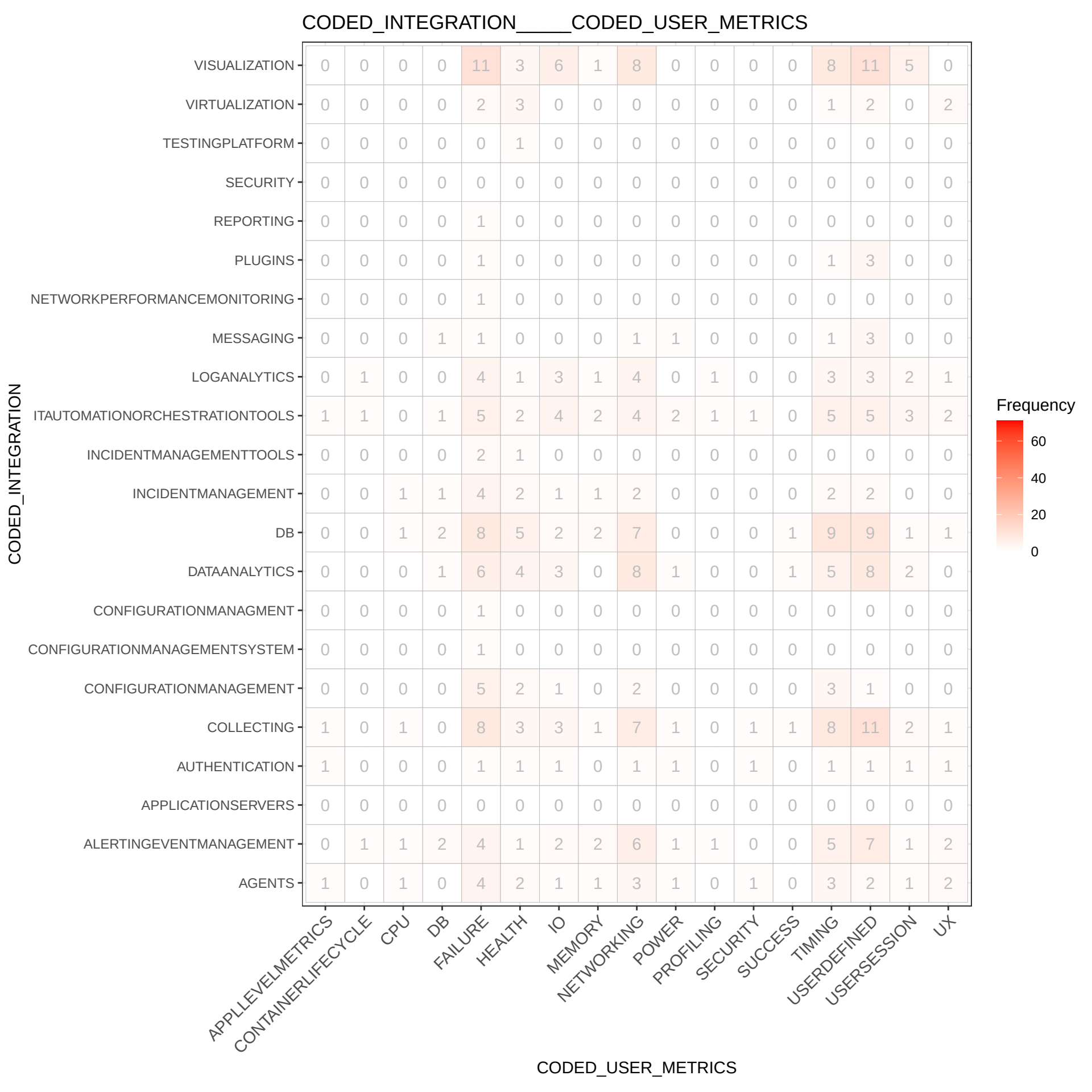
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SECURITY 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
REPORTING 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
PLUGINS 0 0 0 0 1 0 0 0 0 0 0 0 0 1 3 0 0
NETWORKPERFORMANCEMONITORING 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
MESSAGING 0 0 0 1 1 0 0 0 1 1 0 0 0 1 3 0 0
LOGANALYTICS 0 1 0 0 4 1 3 1 4 0 1 0 0 3 3 2 1
ITAUTOMATIONORCHESTRATIONTOOLS 1 1 0 1 5 2 4 2 4 2 1 1 0 5 5 3 2
INCIDENTMANAGEMENTTOOLS 0 0 0 0 2 1 0 0 0 0 0 0 0 0 0 0 0
INCIDENTMANAGEMENT 0 0 1 1 4 2 1 1 2 0 0 0 0 2 2 0 0
DB 0 0 1 2 8 5 2 2 7 0 0 0 1 9 9 1 1
DATAANALYTICS 0 0 0 1 6 4 3 0 8 1 0 0 1 5 8 2 0
CONFIGURATIONMANAGMENT 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
CONFIGURATIONMANAGEMENTSYSTEM 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
CONFIGURATIONMANAGEMENT 0 0 0 0 5 2 1 0 2 0 0 0 0 3 1 0 0
COLLECTING 1 0 1 0 8 3 3 1 7 1 0 1 1 8 11 2 1
AUTHENTICATION 1 0 0 0 1 1 1 0 1 1 0 1 0 1 1 1 1
APPLICATIONSERVERS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
ALERTINGEVENTMANAGEMENT 0 1 1 2 4 1 2 2 6 1 1 0 0 5 7 1 2
AGENTS 1 0 1 0 4 2 1 1 3 1 0 1 0 3 2 1 2
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
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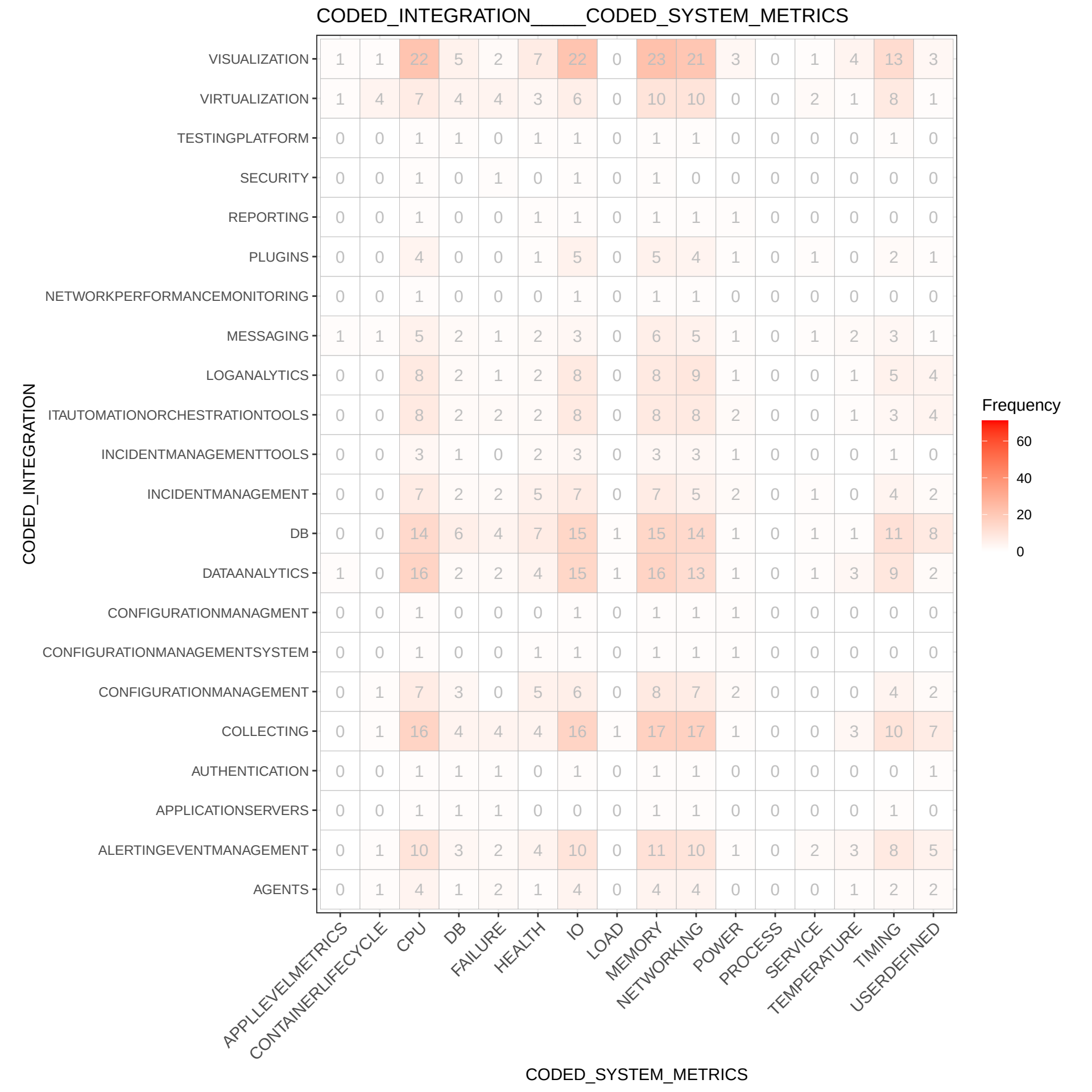
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VIRTUALIZATION 1 4 7 4 4 3 6 0 10 10 0 0 2 1 8 1
TESTINGPLATFORM 0 0 1 1 0 1 1 0 1 1 0 0 0 0 1 0
SECURITY 0 0 1 0 1 0 1 0 1 0 0 0 0 0 0 0
REPORTING 0 0 1 0 0 1 1 0 1 1 1 0 0 0 0 0
PLUGINS 0 0 4 0 0 1 5 0 5 4 1 0 1 0 2 1
NETWORKPERFORMANCEMONITORING 0 0 1 0 0 0 1 0 1 1 0 0 0 0 0 0
MESSAGING 1 1 5 2 1 2 3 0 6 5 1 0 1 2 3 1
LOGANALYTICS 0 0 8 2 1 2 8 0 8 9 1 0 0 1 5 4
ITAUTOMATIONORCHESTRATIONTOOLS 0 0 8 2 2 2 8 0 8 8 2 0 0 1 3 4
INCIDENTMANAGEMENTTOOLS 0 0 3 1 0 2 3 0 3 3 1 0 0 0 1 0
INCIDENTMANAGEMENT 0 0 7 2 2 5 7 0 7 5 2 0 1 0 4 2
DB 0 0 14 6 4 7 15 1 15 14 1 0 1 1 11 8
DATAANALYTICS 1 0 16 2 2 4 15 1 16 13 1 0 1 3 9 2
CONFIGURATIONMANAGMENT 0 0 1 0 0 0 1 0 1 1 1 0 0 0 0 0
CONFIGURATIONMANAGEMENTSYSTEM 0 0 1 0 0 1 1 0 1 1 1 0 0 0 0 0
CONFIGURATIONMANAGEMENT 0 1 7 3 0 5 6 0 8 7 2 0 0 0 4 2
COLLECTING 0 1 16 4 4 4 16 1 17 17 1 0 0 3 10 7
AUTHENTICATION 0 0 1 1 1 0 1 0 1 1 0 0 0 0 0 1
APPLICATIONSERVERS 0 0 1 1 1 0 0 0 1 1 0 0 0 0 1 0
ALERTINGEVENTMANAGEMENT 0 1 10 3 2 4 10 0 11 10 1 0 2 3 8 5
AGENTS 0 1 4 1 2 1 4 0 4 4 0 0 0 1 2 2
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
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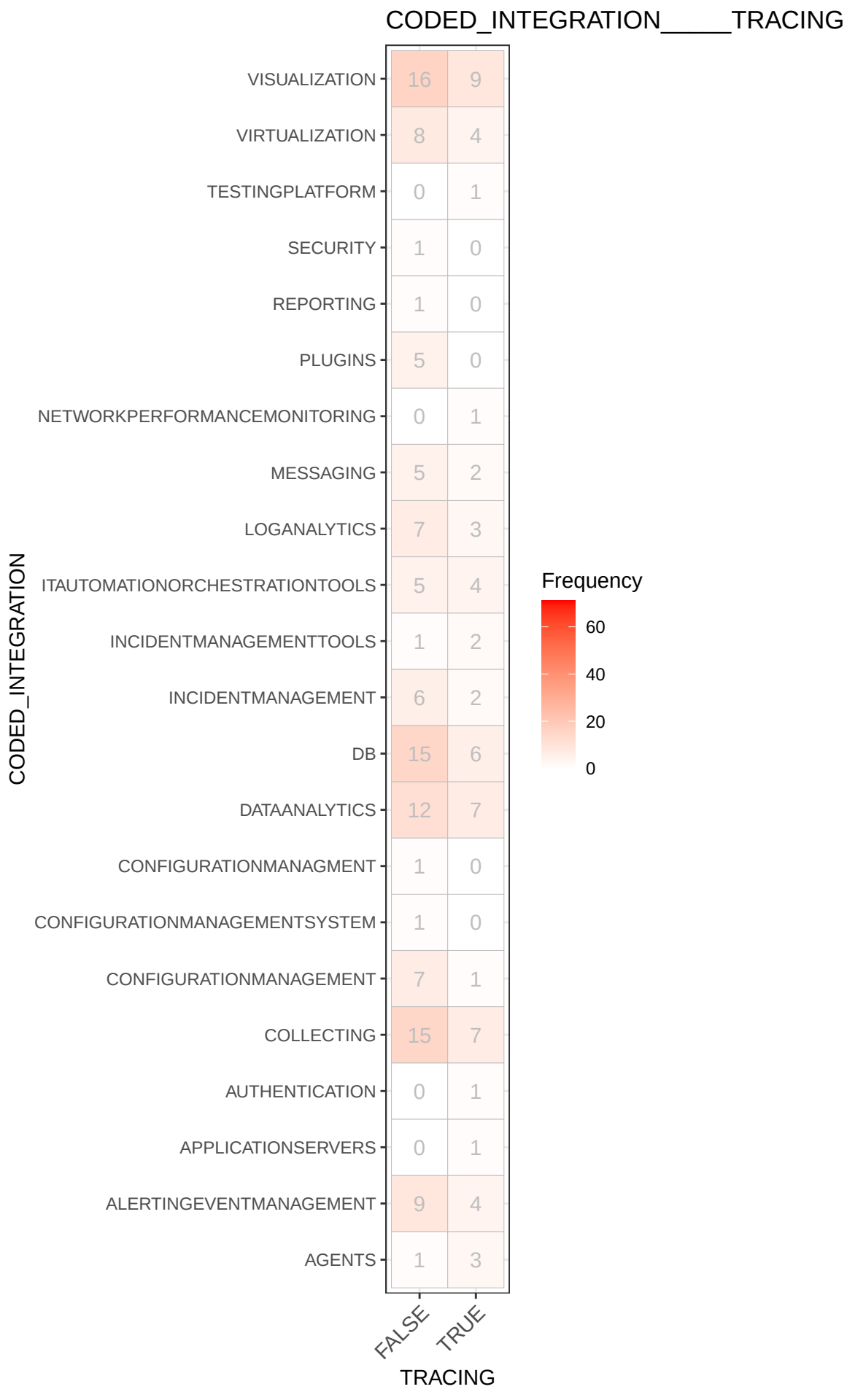
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SECURITY 1 0
REPORTING 1 0
PLUGINS 5 0
NETWORKPERFORMANCEMONITORING 0 1
MESSAGING 5 2
LOGANALYTICS 7 3
ITAUTOMATIONORCHESTRATIONTOOLS 5 4
INCIDENTMANAGEMENTTOOLS 1 2
INCIDENTMANAGEMENT 6 2
DB 15 6
DATAANALYTICS 12 7
CONFIGURATIONMANAGMENT 1 0
CONFIGURATIONMANAGEMENTSYSTEM 1 0
CONFIGURATIONMANAGEMENT 7 1
COLLECTING 15 7
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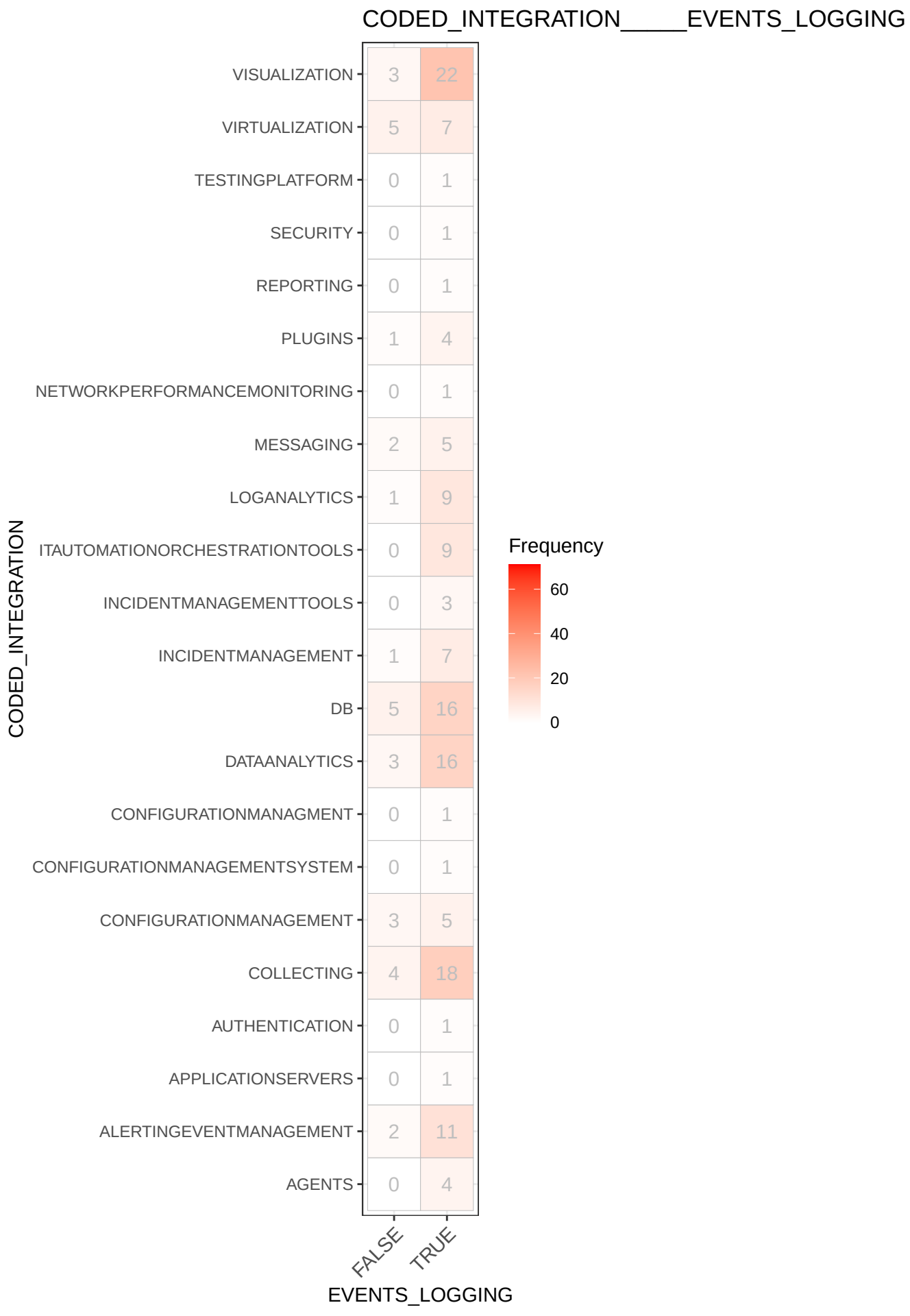
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TESTINGPLATFORM
SECURITY
REPORTING
PLUGINS
NETWORKPERFORMANCEMONITORING
MESSAGING
LOGANALYTICS
ITAUTOMATIONORCHESTRATIONTOOLS
INCIDENTMANAGEMENTTOOLS
INCIDENTMANAGEMENT
DB
DATAANALYTICS
CONFIGURATIONMANAGMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGEMENT
COLLECTING
AUTHENTICATION
APPLICATIONSERVERS
ALERTINGEVENTMANAGEMENT
AGENTS
3 22
5 7
0 1
0 1
0 1
1 4
0 1
2 5
1 9
0 9
0 3
1 7
5 16
3 16
0 1
0 1
3 5
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2 11
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EVENTS_LOGGING
Frequency
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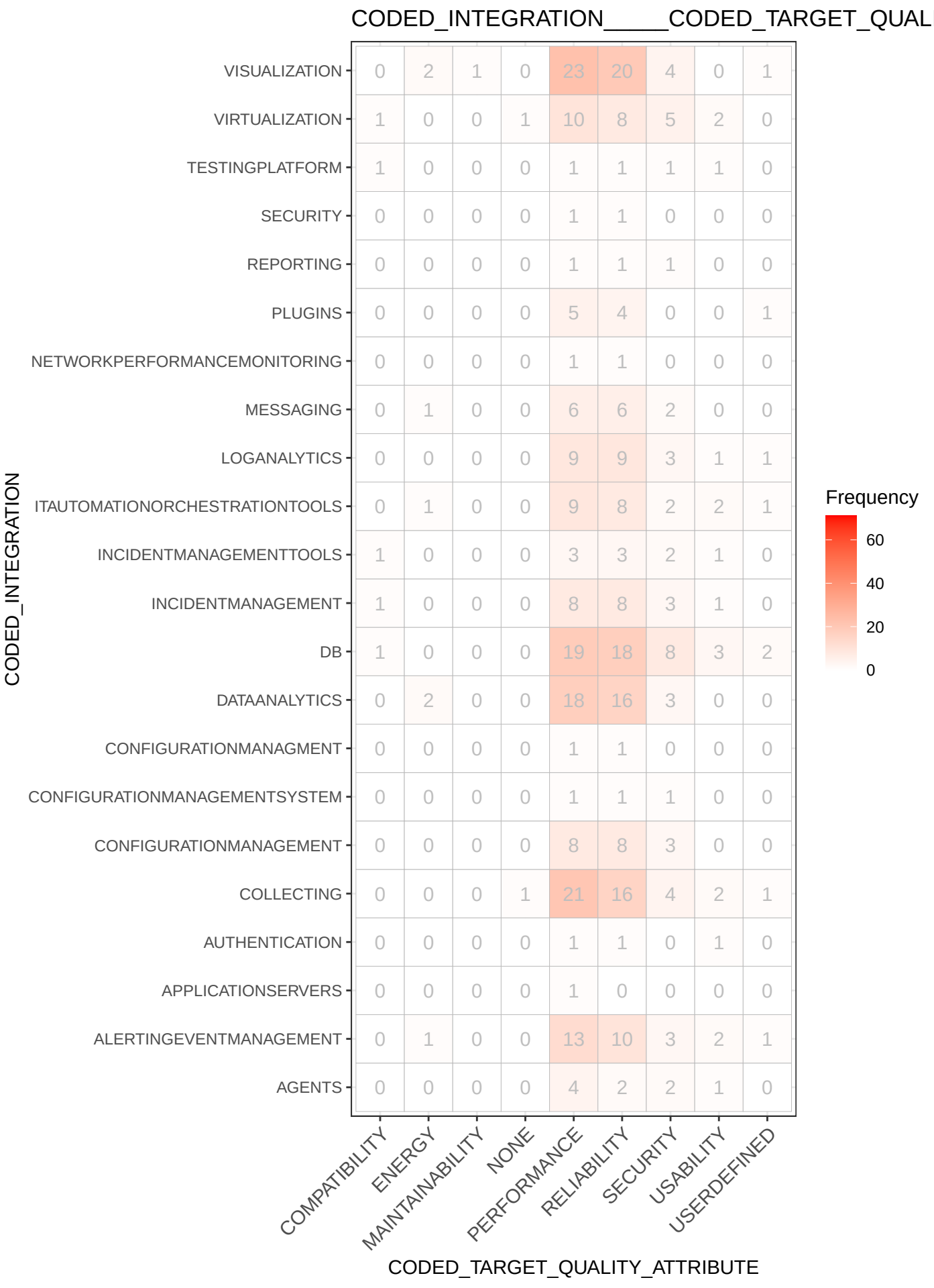
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REPORTING 0 0 0 0 1 1 1 0 0
PLUGINS 0 0 0 0 5 4 0 0 1
NETWORKPERFORMANCEMONITORING 0 0 0 0 1 1 0 0 0
MESSAGING 0 1 0 0 6 6 2 0 0
LOGANALYTICS 0 0 0 0 9 9 3 1 1
ITAUTOMATIONORCHESTRATIONTOOLS 0 1 0 0 9 8 2 2 1
INCIDENTMANAGEMENTTOOLS 1 0 0 0 3 3 2 1 0
INCIDENTMANAGEMENT 1 0 0 0 8 8 3 1 0
DB 1 0 0 0 19 18 8 3 2
DATAANALYTICS 0 2 0 0 18 16 3 0 0
CONFIGURATIONMANAGMENT 0 0 0 0 1 1 0 0 0
CONFIGURATIONMANAGEMENTSYSTEM 0 0 0 0 1 1 1 0 0
CONFIGURATIONMANAGEMENT 0 0 0 0 8 8 3 0 0
COLLECTING 0 0 0 1 21 16 4 2 1
AUTHENTICATION 0 0 0 0 1 1 0 1 0
APPLICATIONSERVERS 0 0 0 0 1 0 0 0 0
ALERTINGEVENTMANAGEMENT 0 1 0 0 13 10 3 2 1
AGENTS 0 0 0 0 4 2 2 1 0
COMPATIBILITY
ENERGY
MAINTAINABILITY
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PERFORMANCE
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SECURITY
USABILITY
USERDEFINED
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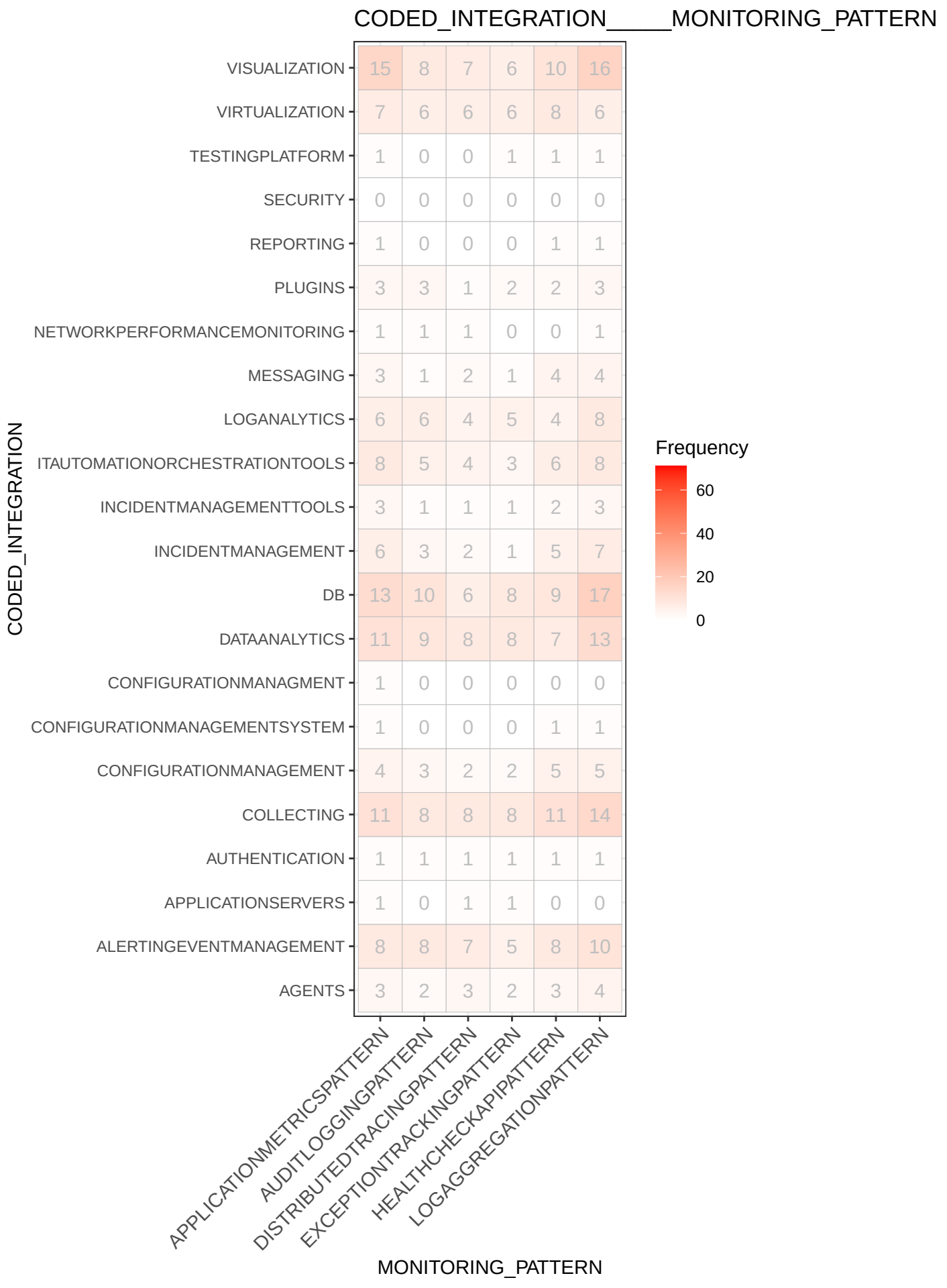
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SECURITY 0 0 0 0 0 0
REPORTING 1 0 0 0 1 1
PLUGINS 3 3 1 2 2 3
NETWORKPERFORMANCEMONITORING 1 1 1 0 0 1
MESSAGING 3 1 2 1 4 4
LOGANALYTICS 6 6 4 5 4 8
ITAUTOMATIONORCHESTRATIONTOOLS 8 5 4 3 6 8
INCIDENTMANAGEMENTTOOLS 3 1 1 1 2 3
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DB 13 10 6 8 9 17
DATAANALYTICS 11 9 8 8 7 13
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COLLECTING 11 8 8 8 11 14
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APPLICATIONSERVERS 1 0 1 1 0 0
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AGENTS 3 2 3 2 3 4
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
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REPORTING 1 1 1 1
PLUGINS 3 4 3 3
NETWORKPERFORMANCEMONITORING 1 1 1 1
MESSAGING 3 6 3 4
LOGANALYTICS 9 8 7 10
ITAUTOMATIONORCHESTRATIONTOOLS 7 8 7 9
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INCIDENTMANAGEMENT 7 7 6 7
DB 15 20 15 16
DATAANALYTICS 14 18 11 13
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CONFIGURATIONMANAGEMENTSYSTEM 1 1 1 1
CONFIGURATIONMANAGEMENT 6 8 5 6
COLLECTING 15 18 10 14
AUTHENTICATION 1 1 1 1
APPLICATIONSERVERS 0 1 1 1
ALERTINGEVENTMANAGEMENT 10 13 10 11
AGENTS 4 3 2 4
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
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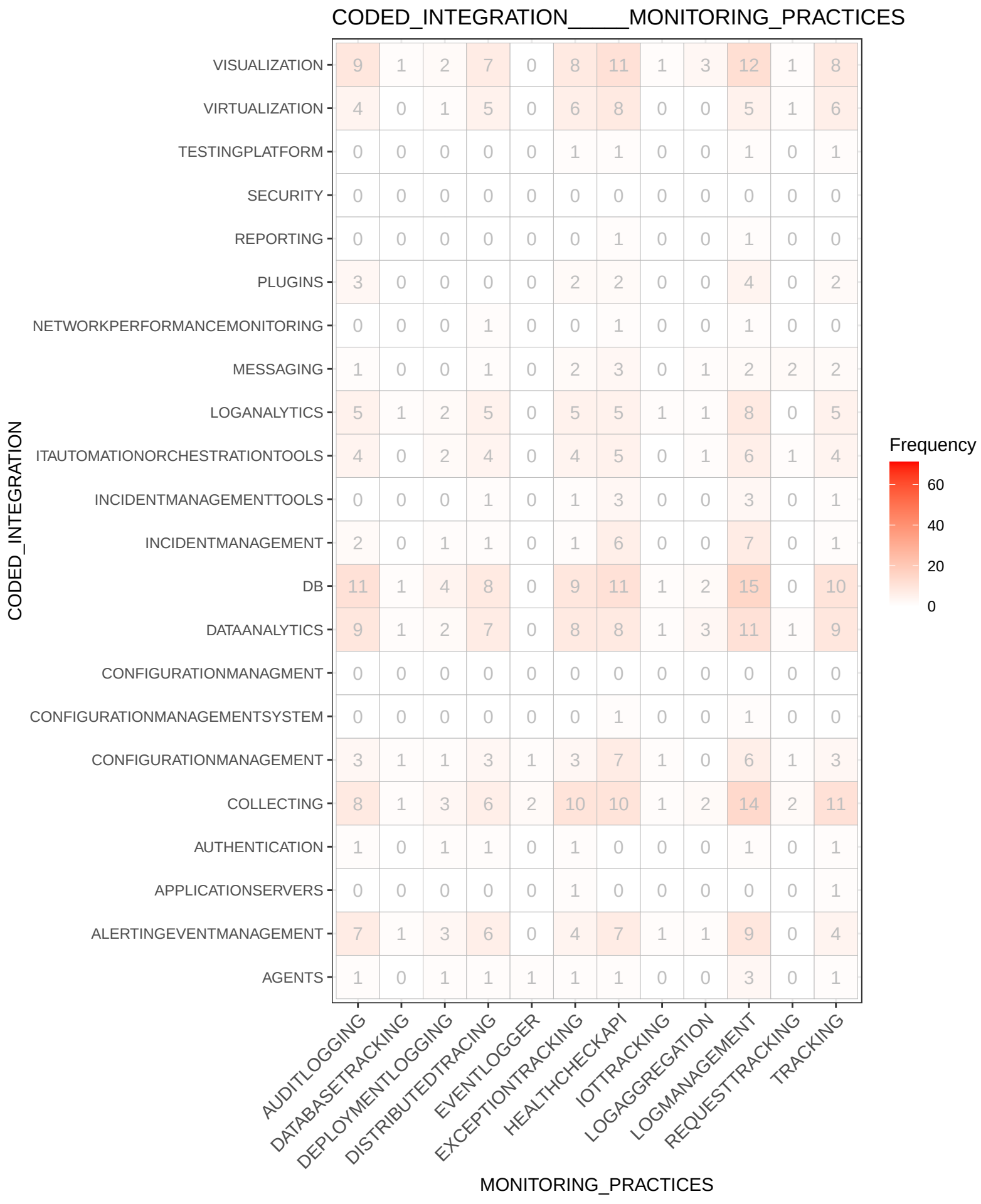
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PLUGINS 3 0 0 0 0 2 2 0 0 4 0 2
NETWORKPERFORMANCEMONITORING 0 0 0 1 0 0 1 0 0 1 0 0
MESSAGING 1 0 0 1 0 2 3 0 1 2 2 2
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ITAUTOMATIONORCHESTRATIONTOOLS 4 0 2 4 0 4 5 0 1 6 1 4
INCIDENTMANAGEMENTTOOLS 0 0 0 1 0 1 3 0 0 3 0 1
INCIDENTMANAGEMENT 2 0 1 1 0 1 6 0 0 7 0 1
DB 11 1 4 8 0 9 11 1 2 15 0 10
DATAANALYTICS 9 1 2 7 0 8 8 1 3 11 1 9
CONFIGURATIONMANAGMENT 0 0 0 0 0 0 0 0 0 0 0 0
CONFIGURATIONMANAGEMENTSYSTEM 0 0 0 0 0 0 1 0 0 1 0 0
CONFIGURATIONMANAGEMENT 3 1 1 3 1 3 7 1 0 6 1 3
COLLECTING 8 1 3 6 2 10 10 1 2 14 2 11
AUTHENTICATION 1 0 1 1 0 1 0 0 0 1 0 1
APPLICATIONSERVERS 0 0 0 0 0 1 0 0 0 0 0 1
ALERTINGEVENTMANAGEMENT 7 1 3 6 0 4 7 1 1 9 0 4
AGENTS 1 0 1 1 1 1 1 0 0 3 0 1
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
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REQUESTTRACKING
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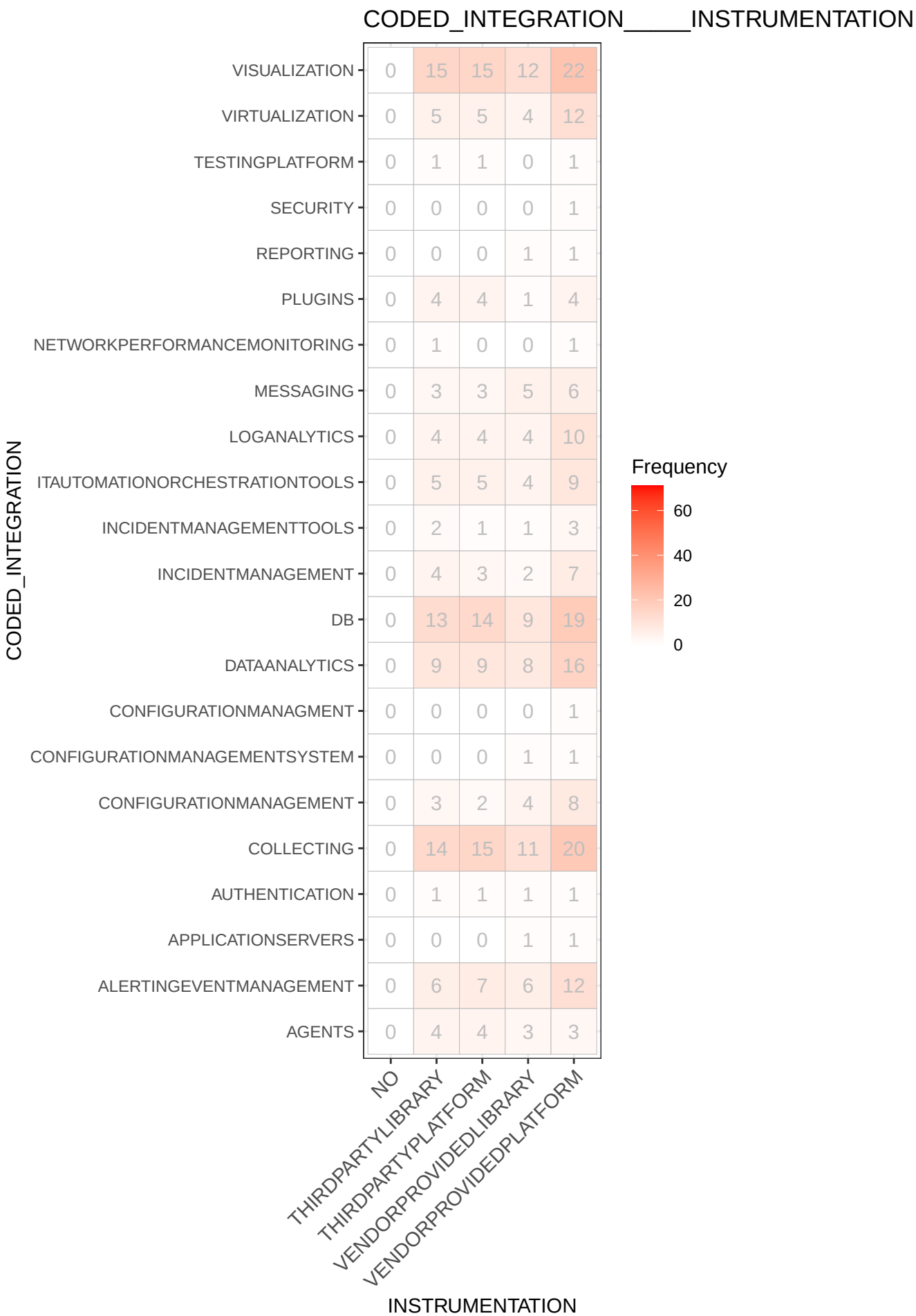
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LOGANALYTICS 0 4 4 4 10
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DB 0 13 14 9 19
DATAANALYTICS 0 9 9 8 16
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CONFIGURATIONMANAGEMENTSYSTEM 0 0 0 1 1
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COLLECTING 0 14 15 11 20
AUTHENTICATION 0 1 1 1 1
APPLICATIONSERVERS 0 0 0 1 1
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AGENTS 0 4 4 3 3
NO
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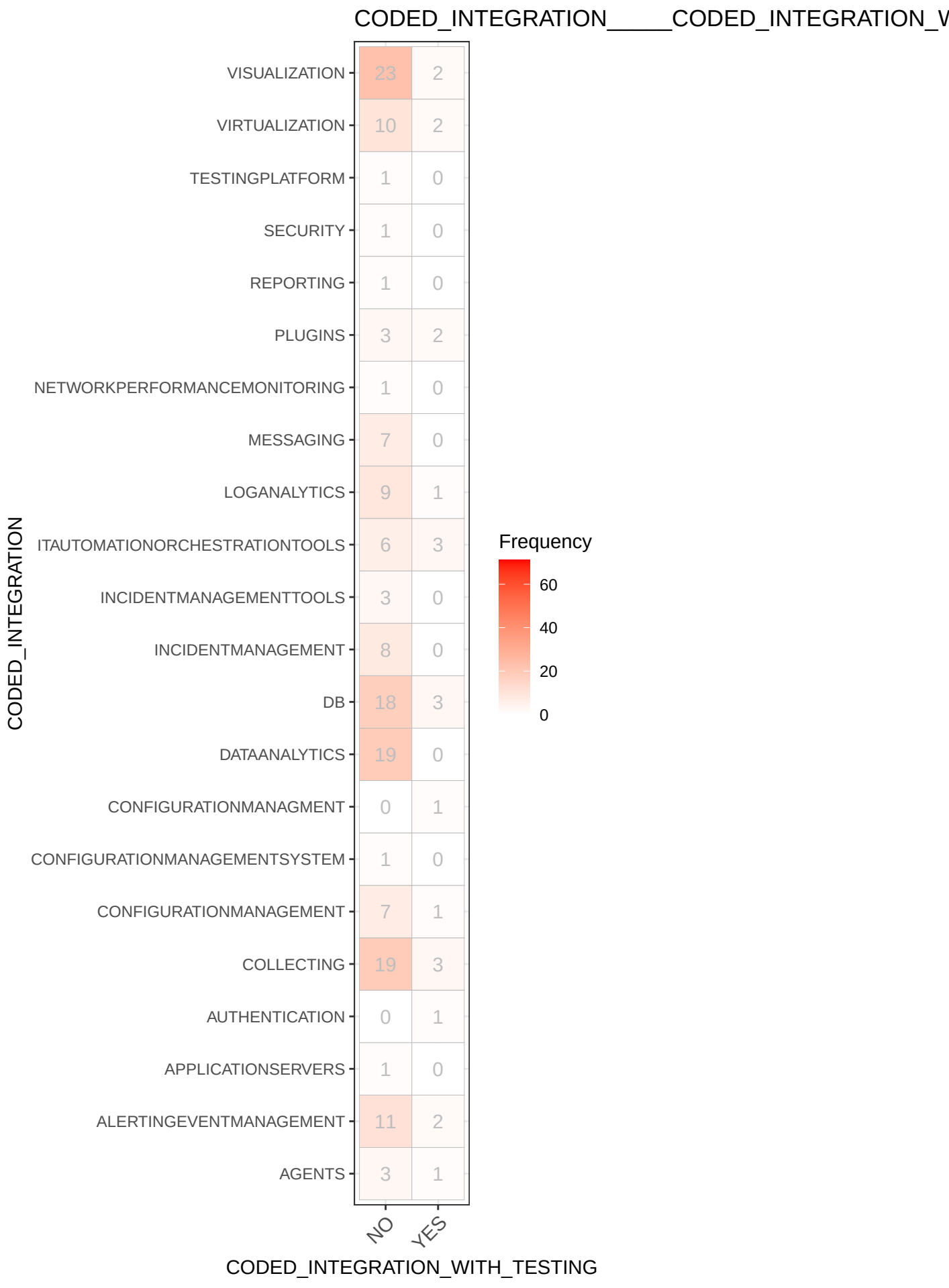
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VIRTUALIZATION
TESTINGPLATFORM
SECURITY
REPORTING
PLUGINS
NETWORKPERFORMANCEMONITORING
MESSAGING
LOGANALYTICS
ITAUTOMATIONORCHESTRATIONTOOLS
INCIDENTMANAGEMENTTOOLS
INCIDENTMANAGEMENT
DB
DATAANALYTICS
CONFIGURATIONMANAGMENT
CONFIGURATIONMANAGEMENTSYSTEM
CONFIGURATIONMANAGEMENT
COLLECTING
AUTHENTICATION
APPLICATIONSERVERS
ALERTINGEVENTMANAGEMENT
AGENTS
23 2
10 2
1 0
1 0
1 0
3 2
1 0
7 0
9 1
6 3
3 0
8 0
18 3
19 0
0 1
1 0
7 1
19 3
0 1
1 0
11 2
3 1
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40
20
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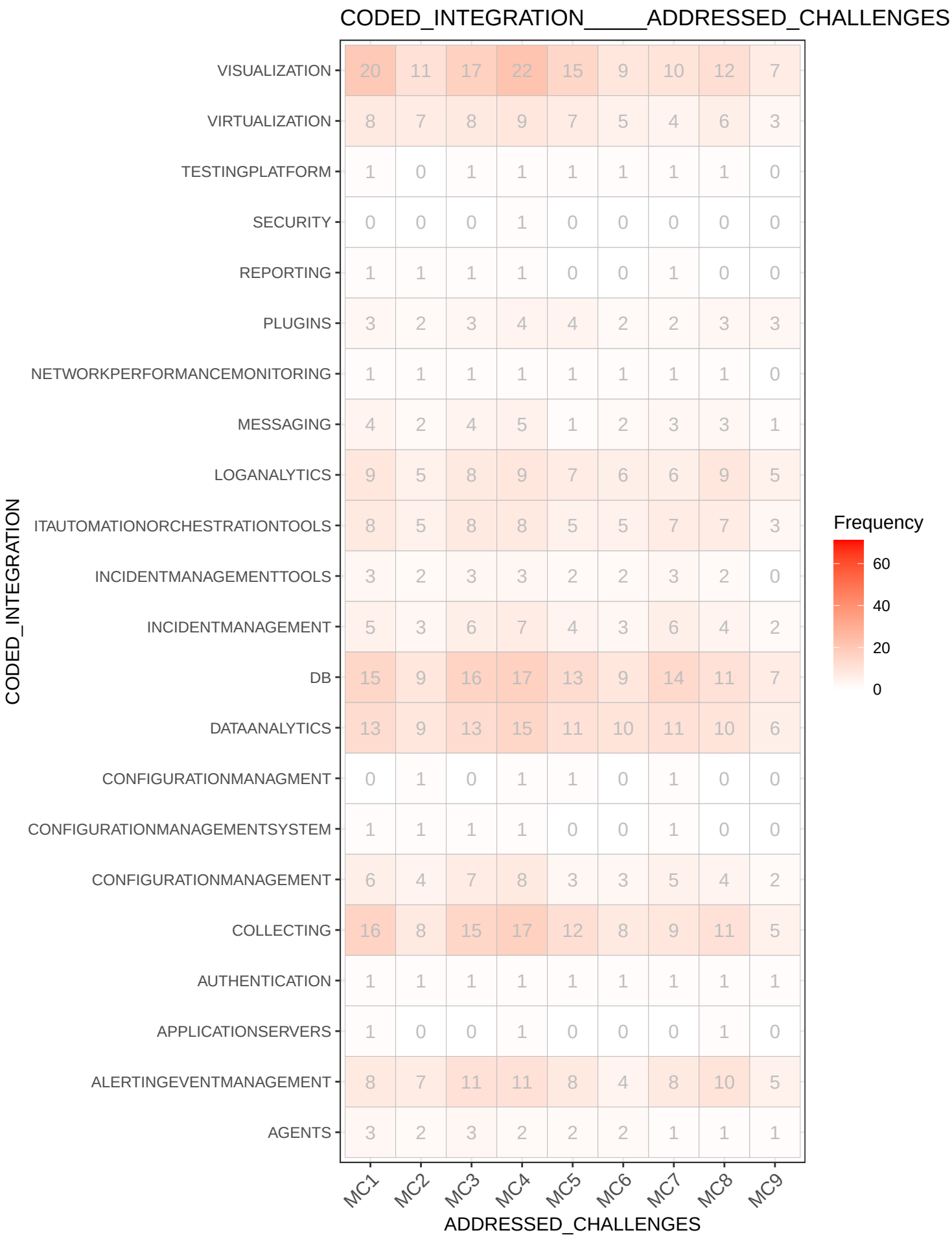
NO
YES
CODED_INTEGRATION_WITH_TESTING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VIRTUALIZATION 8 7 8 9 7 5 4 6 3
TESTINGPLATFORM 1 0 1 1 1 1 1 1 0
SECURITY 0 0 0 1 0 0 0 0 0
REPORTING 1 1 1 1 0 0 1 0 0
PLUGINS 3 2 3 4 4 2 2 3 3
NETWORKPERFORMANCEMONITORING 1 1 1 1 1 1 1 1 0
MESSAGING 4 2 4 5 1 2 3 3 1
LOGANALYTICS 9 5 8 9 7 6 6 9 5
ITAUTOMATIONORCHESTRATIONTOOLS 8 5 8 8 5 5 7 7 3
INCIDENTMANAGEMENTTOOLS 3 2 3 3 2 2 3 2 0
INCIDENTMANAGEMENT 5 3 6 7 4 3 6 4 2
DB 15 9 16 17 13 9 14 11 7
DATAANALYTICS 13 9 13 15 11 10 11 10 6
CONFIGURATIONMANAGMENT 0 1 0 1 1 0 1 0 0
CONFIGURATIONMANAGEMENTSYSTEM 1 1 1 1 0 0 1 0 0
CONFIGURATIONMANAGEMENT 6 4 7 8 3 3 5 4 2
COLLECTING 16 8 15 17 12 8 9 11 5
AUTHENTICATION 1 1 1 1 1 1 1 1 1
APPLICATIONSERVERS 1 0 0 1 0 0 0 1 0
ALERTINGEVENTMANAGEMENT 8 7 11 11 8 4 8 10 5
AGENTS 3 2 3 2 2 2 1 1 1
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
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40
20
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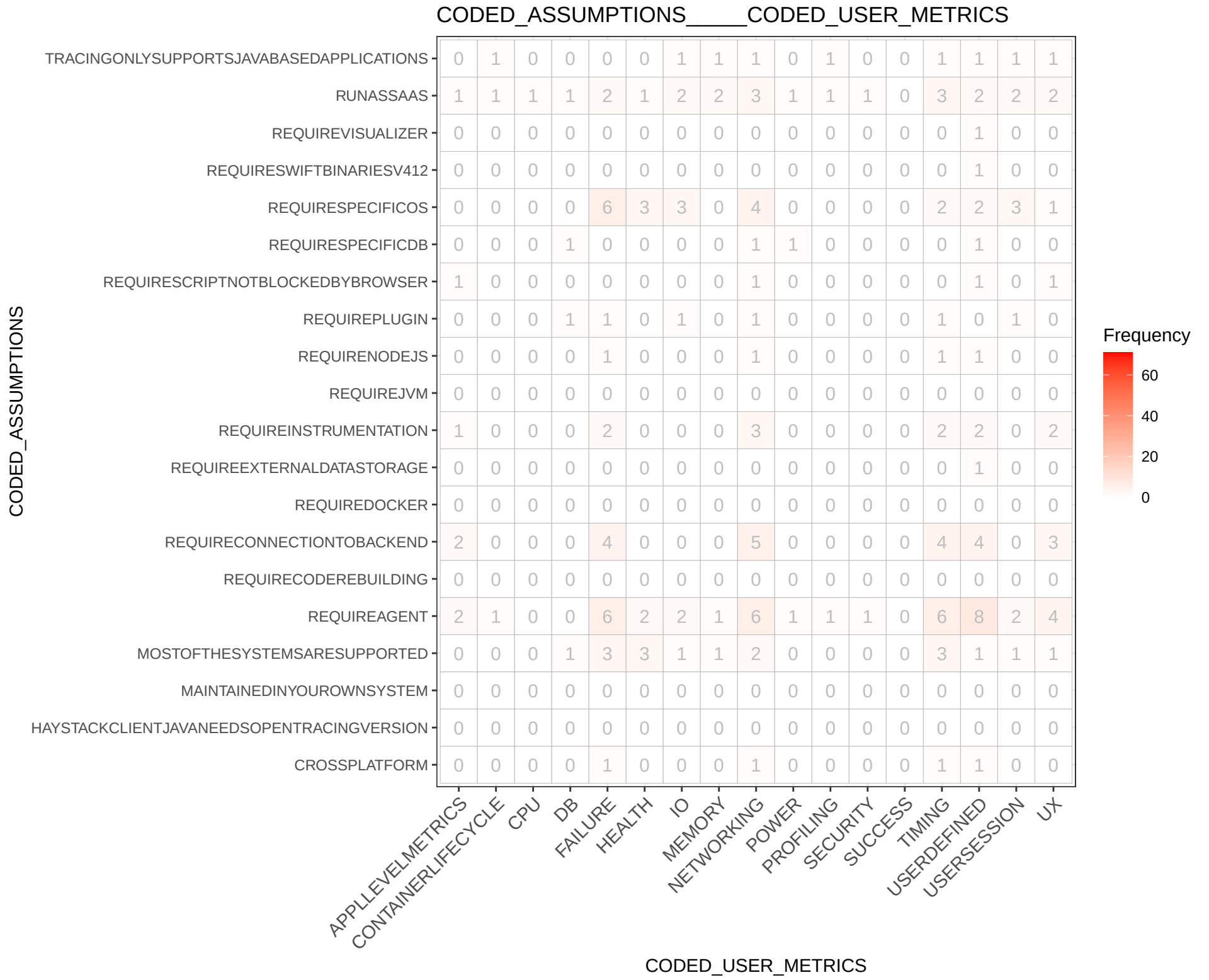
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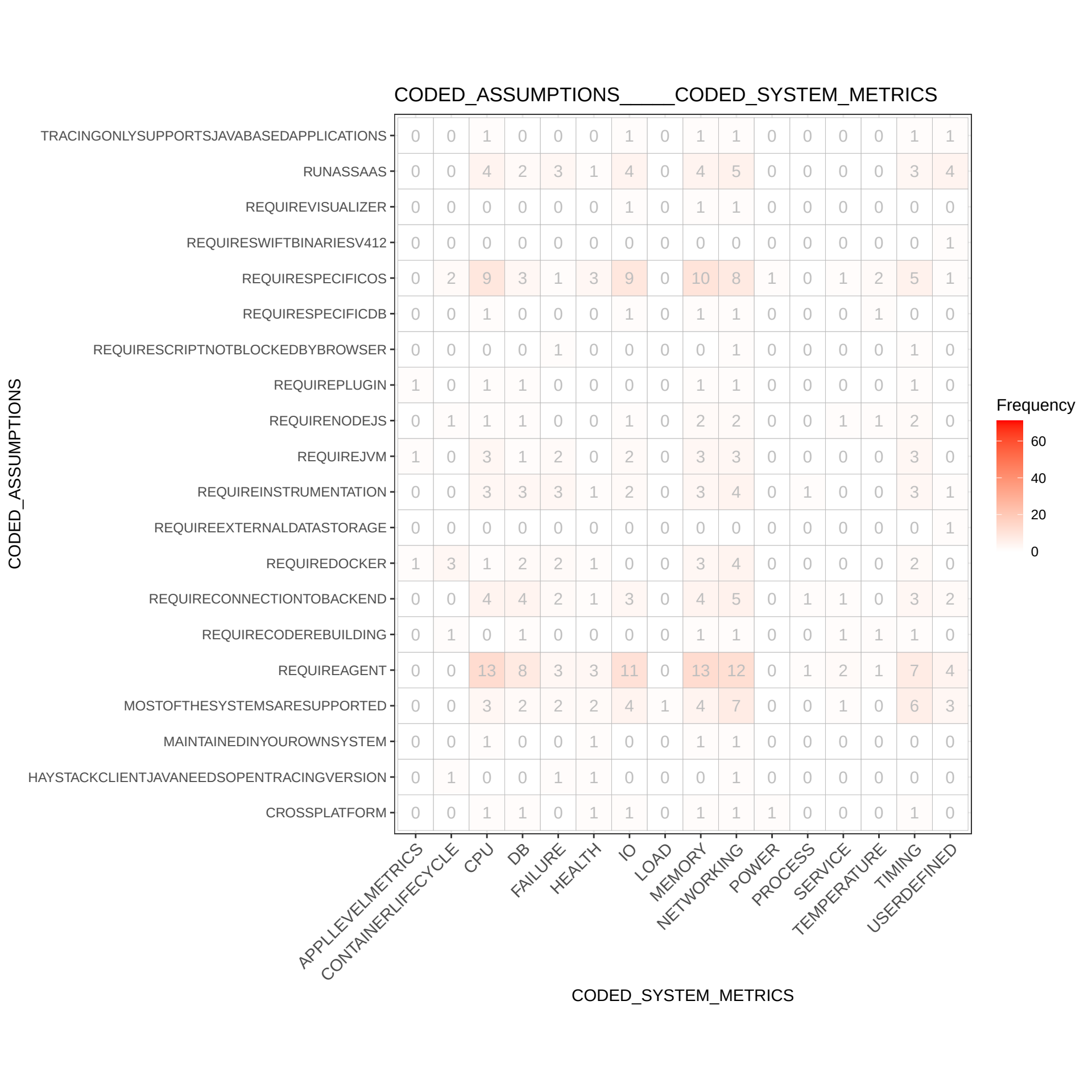
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS 0 1 0 0 0 0 1 1 1 0 1 0 0 1 1 1 1
RUNASSAAS 1 1 1 1 2 1 2 2 3 1 1 1 0 3 2 2 2
REQUIREVISUALIZER 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
REQUIRESWIFTBINARIESV412 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
REQUIRESPECIFICOS 0 0 0 0 6 3 3 0 4 0 0 0 0 2 2 3 1
REQUIRESPECIFICDB 0 0 0 1 0 0 0 0 1 1 0 0 0 0 1 0 0
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 1 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 1
REQUIREPLUGIN 0 0 0 1 1 0 1 0 1 0 0 0 0 1 0 1 0
REQUIRENODEJS 0 0 0 0 1 0 0 0 1 0 0 0 0 1 1 0 0
REQUIREJVM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
REQUIREINSTRUMENTATION 1 0 0 0 2 0 0 0 3 0 0 0 0 2 2 0 2
REQUIREEXTERNALDATASTORAGE 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
REQUIREDOCKER 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
REQUIRECONNECTIONTOBACKEND 2 0 0 0 4 0 0 0 5 0 0 0 0 4 4 0 3
REQUIRECODEREBUILDING 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
REQUIREAGENT 2 1 0 0 6 2 2 1 6 1 1 1 0 6 8 2 4
MOSTOFTHESYSTEMSARESUPPORTED 0 0 0 1 3 3 1 1 2 0 0 0 0 3 1 1 1
MAINTAINEDINYOUROWNSYSTEM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
CROSSPLATFORM 0 0 0 0 1 0 0 0 1 0 0 0 0 1 1 0 0
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
MEMORY
NETWORKING
POWER
PROFILING
SECURITY
SUCCESS
TIMING
USERDEFINED
USERSESSION
UX
CODED_USER_METRICS
Frequency
60
40
20
0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RUNASSAAS 0 0 4 2 3 1 4 0 4 5 0 0 0 0 3 4
REQUIREVISUALIZER 0 0 0 0 0 0 1 0 1 1 0 0 0 0 0 0
REQUIRESWIFTBINARIESV412 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1
REQUIRESPECIFICOS 0 2 9 3 1 3 9 0 10 8 1 0 1 2 5 1
REQUIRESPECIFICDB 0 0 1 0 0 0 1 0 1 1 0 0 0 1 0 0
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REQUIREPLUGIN 1 0 1 1 0 0 0 0 1 1 0 0 0 0 1 0
REQUIRENODEJS 0 1 1 1 0 0 1 0 2 2 0 0 1 1 2 0
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REQUIRECODEREBUILDING 0 1 0 1 0 0 0 0 1 1 0 0 1 1 1 0
REQUIREAGENT 0 0 13 8 3 3 11 0 13 12 0 1 2 1 7 4
MOSTOFTHESYSTEMSARESUPPORTED 0 0 3 2 2 2 4 1 4 7 0 0 1 0 6 3
MAINTAINEDINYOUROWNSYSTEM 0 0 1 0 0 1 0 0 1 1 0 0 0 0 0 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 1 0 0 1 1 0 0 0 1 0 0 0 0 0 0
CROSSPLATFORM 0 0 1 1 0 1 1 0 1 1 1 0 0 0 1 0
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
CODED_SYSTEM_METRICS
Frequency
60
40
20
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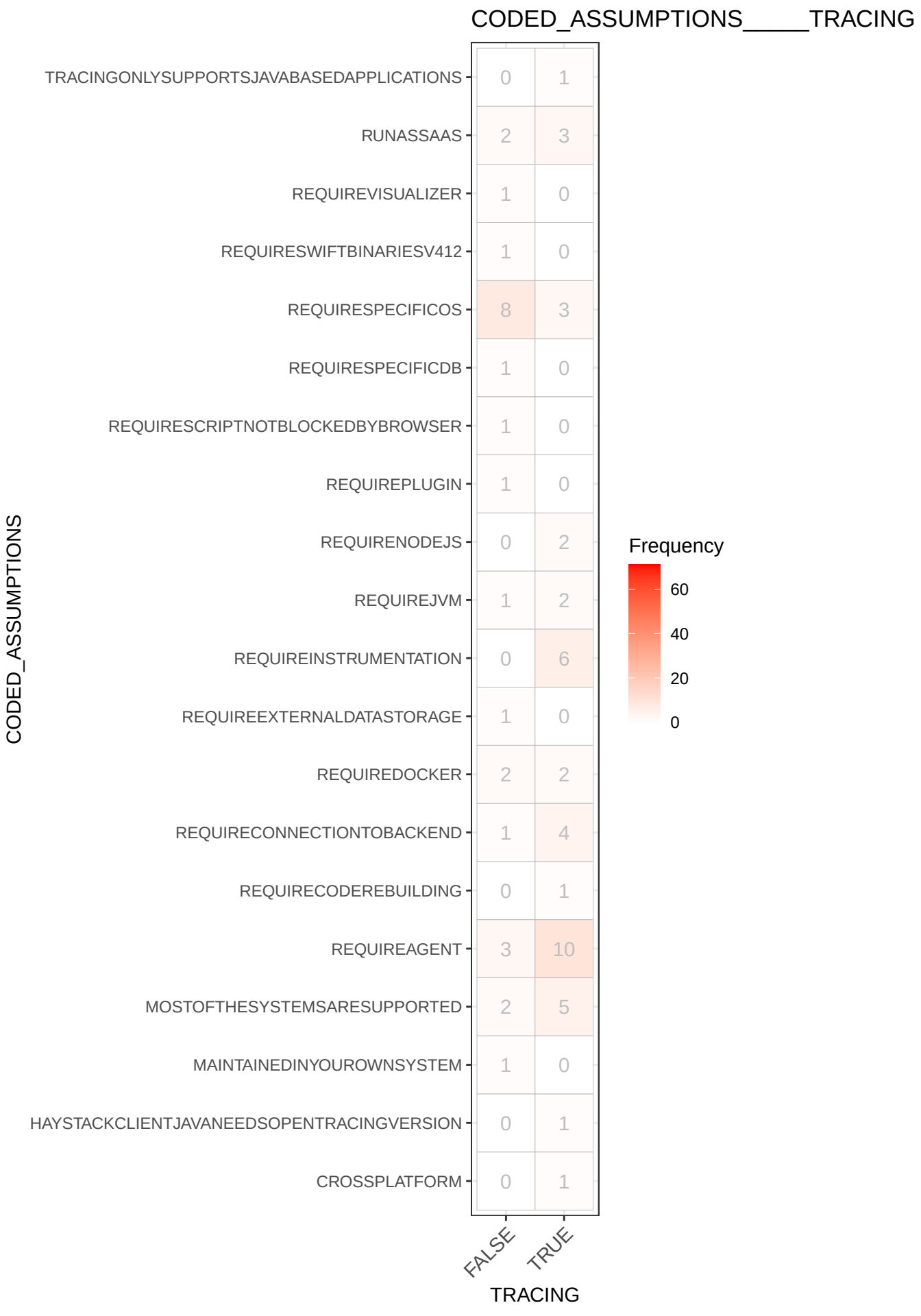
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RUNASSAAS
REQUIREVISUALIZER
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REQUIRESPECIFICOS
REQUIRESPECIFICDB
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIREPLUGIN
REQUIRENODEJS
REQUIREJVM
REQUIREINSTRUMENTATION
REQUIREEXTERNALDATASTORAGE
REQUIREDOCKER
REQUIRECONNECTIONTOBACKEND
REQUIRECODEREBUILDING
REQUIREAGENT
MOSTOFTHESYSTEMSARESUPPORTED
MAINTAINEDINYOUROWNSYSTEM
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
CROSSPLATFORM
0 1
2 3
1 0
1 0
8 3
1 0
1 0
1 0
0 2
1 2
0 6
1 0
2 2
1 4
0 1
3 10
2 5
1 0
0 1
0 1
CODED_ASSUMPTIONS
Frequency
60
40
20
0
FALSE
TRUE
TRACING

CODED_ASSUMPTIONS_____EVENTS_LOGGING
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
RUNASSAAS
REQUIREVISUALIZER
REQUIRESWIFTBINARIESV412
REQUIRESPECIFICOS
REQUIRESPECIFICDB
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIREPLUGIN
REQUIRENODEJS
REQUIREJVM
REQUIREINSTRUMENTATION
REQUIREEXTERNALDATASTORAGE
REQUIREDOCKER
REQUIRECONNECTIONTOBACKEND
REQUIRECODEREBUILDING
REQUIREAGENT
MOSTOFTHESYSTEMSARESUPPORTED
MAINTAINEDINYOUROWNSYSTEM
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
CROSSPLATFORM
0 1
1 4
0 1
1 0
2 9
0 1
0 1
0 1
1 1
1 2
1 5
1 0
2 2
0 5
1 0
0 13
1 6
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Frequency
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40
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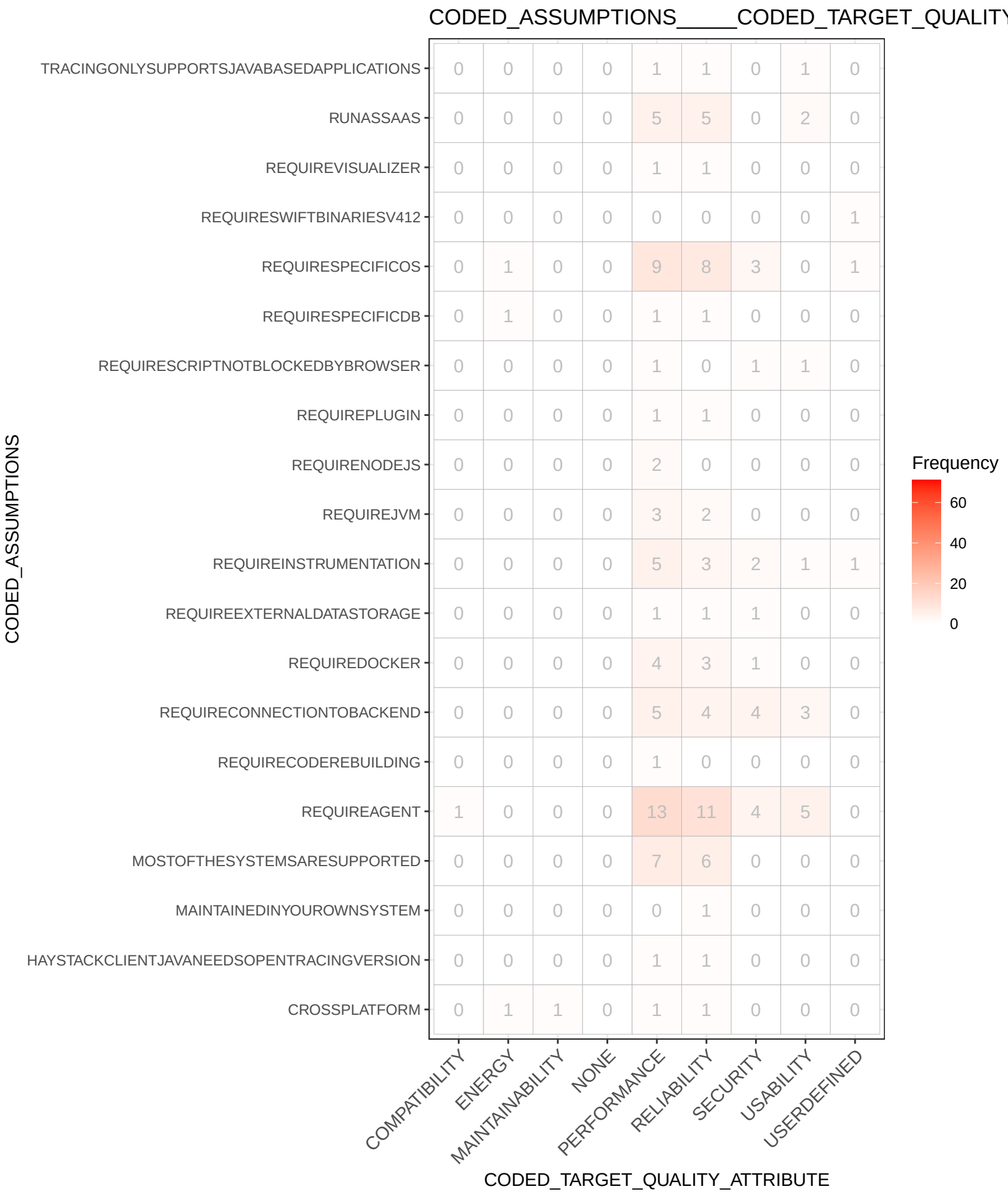
EVENTS_LOGGING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REQUIREVISUALIZER 0 0 0 0 1 1 0 0 0
REQUIRESWIFTBINARIESV412 0 0 0 0 0 0 0 0 1
REQUIRESPECIFICOS 0 1 0 0 9 8 3 0 1
REQUIRESPECIFICDB 0 1 0 0 1 1 0 0 0
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 0 0 0 0 1 0 1 1 0
REQUIREPLUGIN 0 0 0 0 1 1 0 0 0
REQUIRENODEJS 0 0 0 0 2 0 0 0 0
REQUIREJVM 0 0 0 0 3 2 0 0 0
REQUIREINSTRUMENTATION 0 0 0 0 5 3 2 1 1
REQUIREEXTERNALDATASTORAGE 0 0 0 0 1 1 1 0 0
REQUIREDOCKER 0 0 0 0 4 3 1 0 0
REQUIRECONNECTIONTOBACKEND 0 0 0 0 5 4 4 3 0
REQUIRECODEREBUILDING 0 0 0 0 1 0 0 0 0
REQUIREAGENT 1 0 0 0 13 11 4 5 0
MOSTOFTHESYSTEMSARESUPPORTED 0 0 0 0 7 6 0 0 0
MAINTAINEDINYOUROWNSYSTEM 0 0 0 0 0 1 0 0 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 0 0 0 1 1 0 0 0
CROSSPLATFORM 0 1 1 0 1 1 0 0 0
CODED_ASSUMPTIONS
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
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40
20
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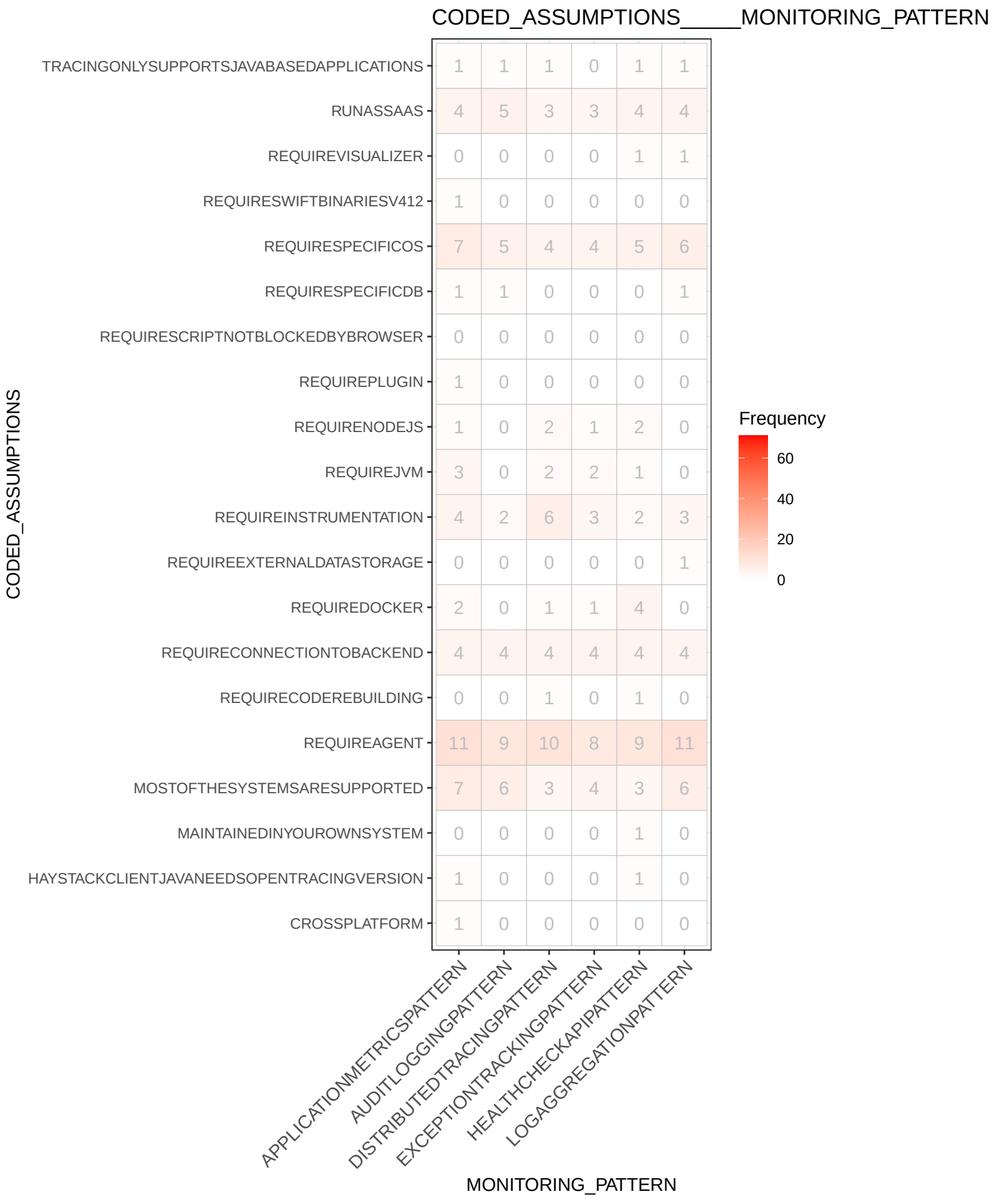
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RUNASSAAS 4 5 3 3 4 4
REQUIREVISUALIZER 0 0 0 0 1 1
REQUIRESWIFTBINARIESV412 1 0 0 0 0 0
REQUIRESPECIFICOS 7 5 4 4 5 6
REQUIRESPECIFICDB 1 1 0 0 0 1
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 0 0 0 0 0 0
REQUIREPLUGIN 1 0 0 0 0 0
REQUIRENODEJS 1 0 2 1 2 0
REQUIREJVM 3 0 2 2 1 0
REQUIREINSTRUMENTATION 4 2 6 3 2 3
REQUIREEXTERNALDATASTORAGE 0 0 0 0 0 1
REQUIREDOCKER 2 0 1 1 4 0
REQUIRECONNECTIONTOBACKEND 4 4 4 4 4 4
REQUIRECODEREBUILDING 0 0 1 0 1 0
REQUIREAGENT 11 9 10 8 9 11
MOSTOFTHESYSTEMSARESUPPORTED 7 6 3 4 3 6
MAINTAINEDINYOUROWNSYSTEM 0 0 0 0 1 0
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 1 0 0 0 1 0
CROSSPLATFORM 1 0 0 0 0 0
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
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40
20
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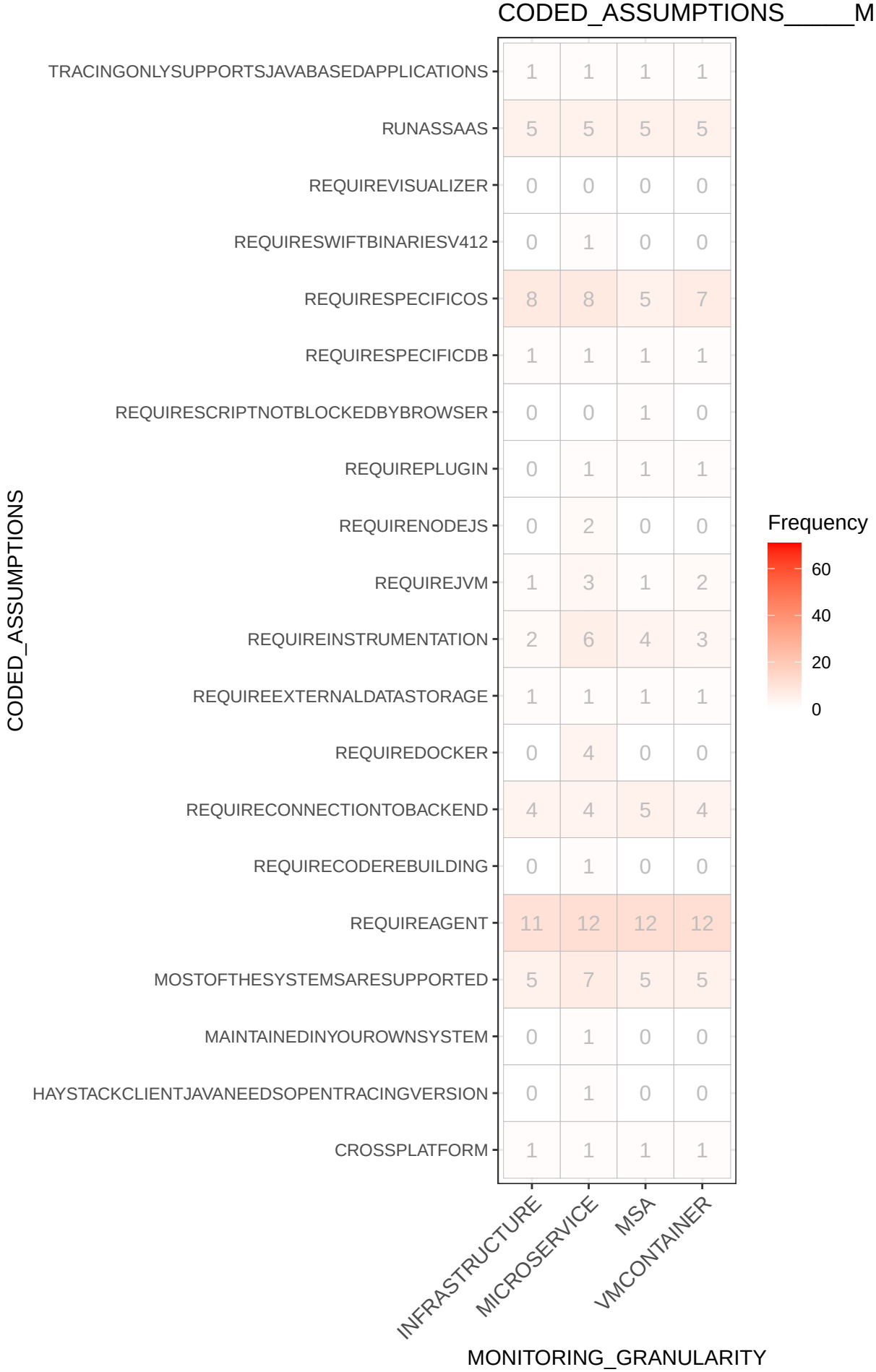
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REQUIREVISUALIZER 0 0 0 0
REQUIRESWIFTBINARIESV412 0 1 0 0
REQUIRESPECIFICOS 8 8 5 7
REQUIRESPECIFICDB 1 1 1 1
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 0 0 1 0
REQUIREPLUGIN 0 1 1 1
REQUIRENODEJS 0 2 0 0
REQUIREJVM 1 3 1 2
REQUIREINSTRUMENTATION 2 6 4 3
REQUIREEXTERNALDATASTORAGE 1 1 1 1
REQUIREDOCKER 0 4 0 0
REQUIRECONNECTIONTOBACKEND 4 4 5 4
REQUIRECODEREBUILDING 0 1 0 0
REQUIREAGENT 11 12 12 12
MOSTOFTHESYSTEMSARESUPPORTED 5 7 5 5
MAINTAINEDINYOUROWNSYSTEM 0 1 0 0
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CROSSPLATFORM 1 1 1 1
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INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
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Frequency
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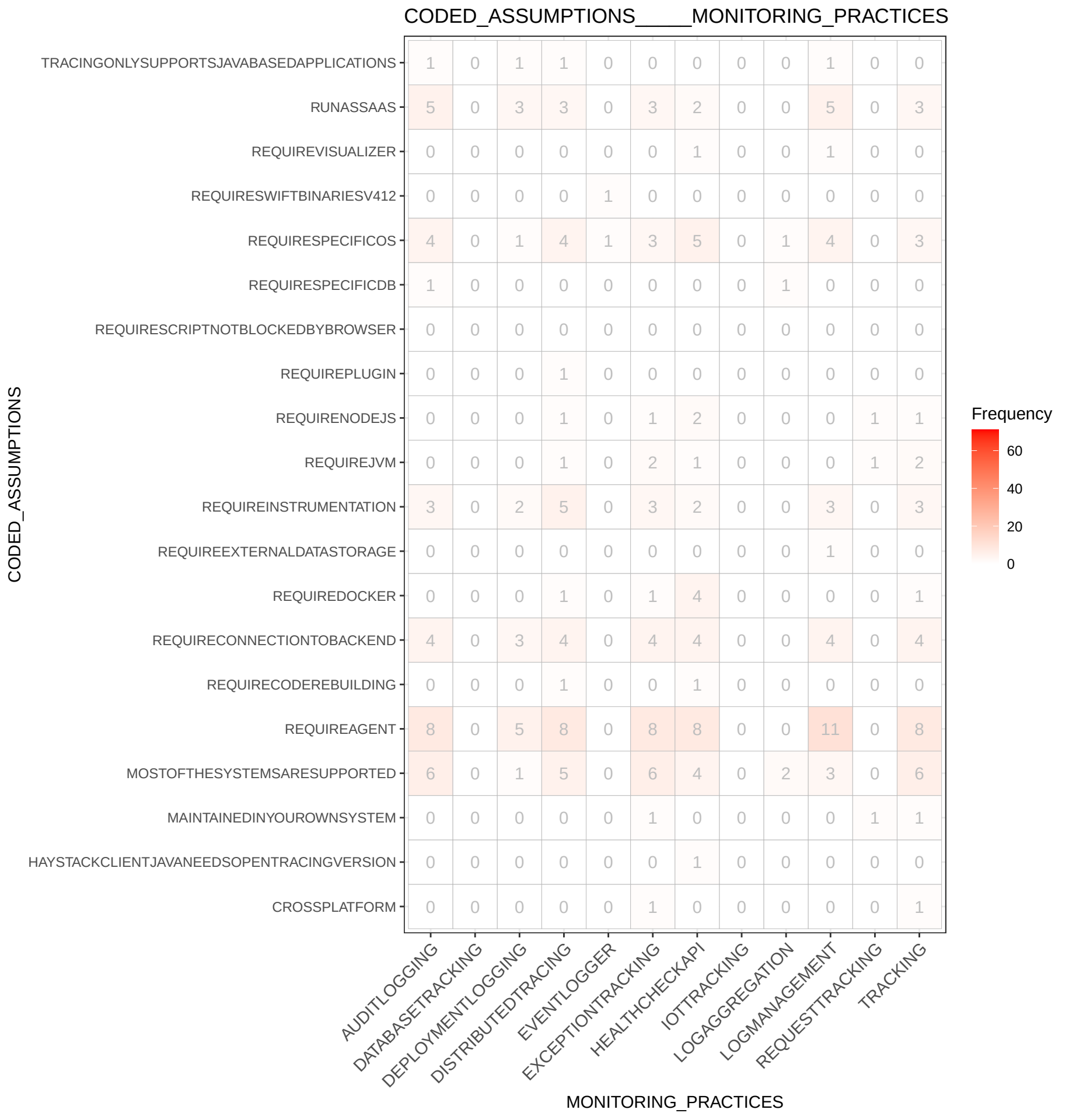
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REQUIRESWIFTBINARIESV412 0 0 0 0 1 0 0 0 0 0 0 0
REQUIRESPECIFICOS 4 0 1 4 1 3 5 0 1 4 0 3
REQUIRESPECIFICDB 1 0 0 0 0 0 0 0 1 0 0 0
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 0 0 0 0 0 0 0 0 0 0 0 0
REQUIREPLUGIN 0 0 0 1 0 0 0 0 0 0 0 0
REQUIRENODEJS 0 0 0 1 0 1 2 0 0 0 1 1
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REQUIREEXTERNALDATASTORAGE 0 0 0 0 0 0 0 0 0 1 0 0
REQUIREDOCKER 0 0 0 1 0 1 4 0 0 0 0 1
REQUIRECONNECTIONTOBACKEND 4 0 3 4 0 4 4 0 0 4 0 4
REQUIRECODEREBUILDING 0 0 0 1 0 0 1 0 0 0 0 0
REQUIREAGENT 8 0 5 8 0 8 8 0 0 11 0 8
MOSTOFTHESYSTEMSARESUPPORTED 6 0 1 5 0 6 4 0 2 3 0 6
MAINTAINEDINYOUROWNSYSTEM 0 0 0 0 0 1 0 0 0 0 1 1
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 0 0 0 0 0 1 0 0 0 0 0
CROSSPLATFORM 0 0 0 0 0 1 0 0 0 0 0 1
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
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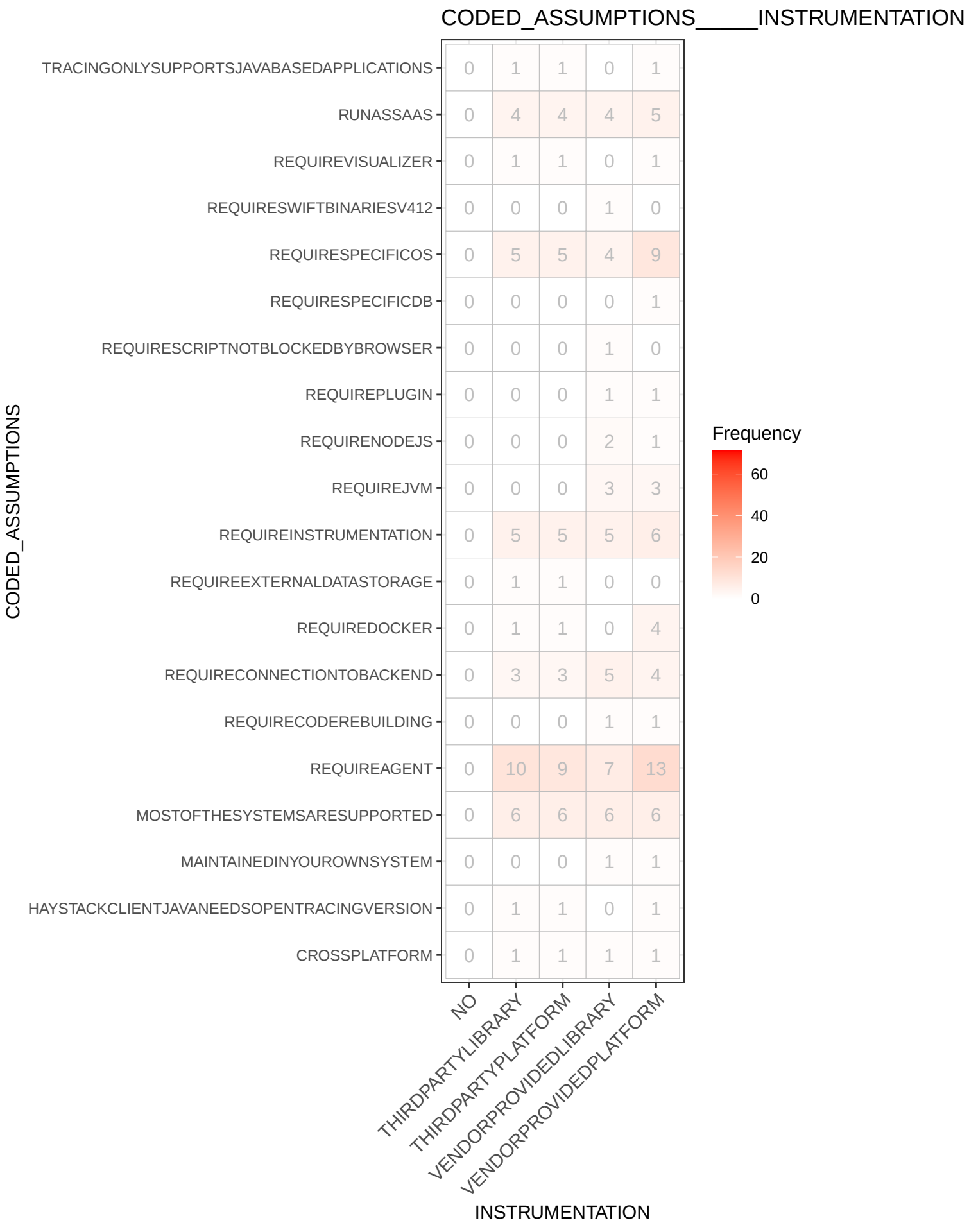
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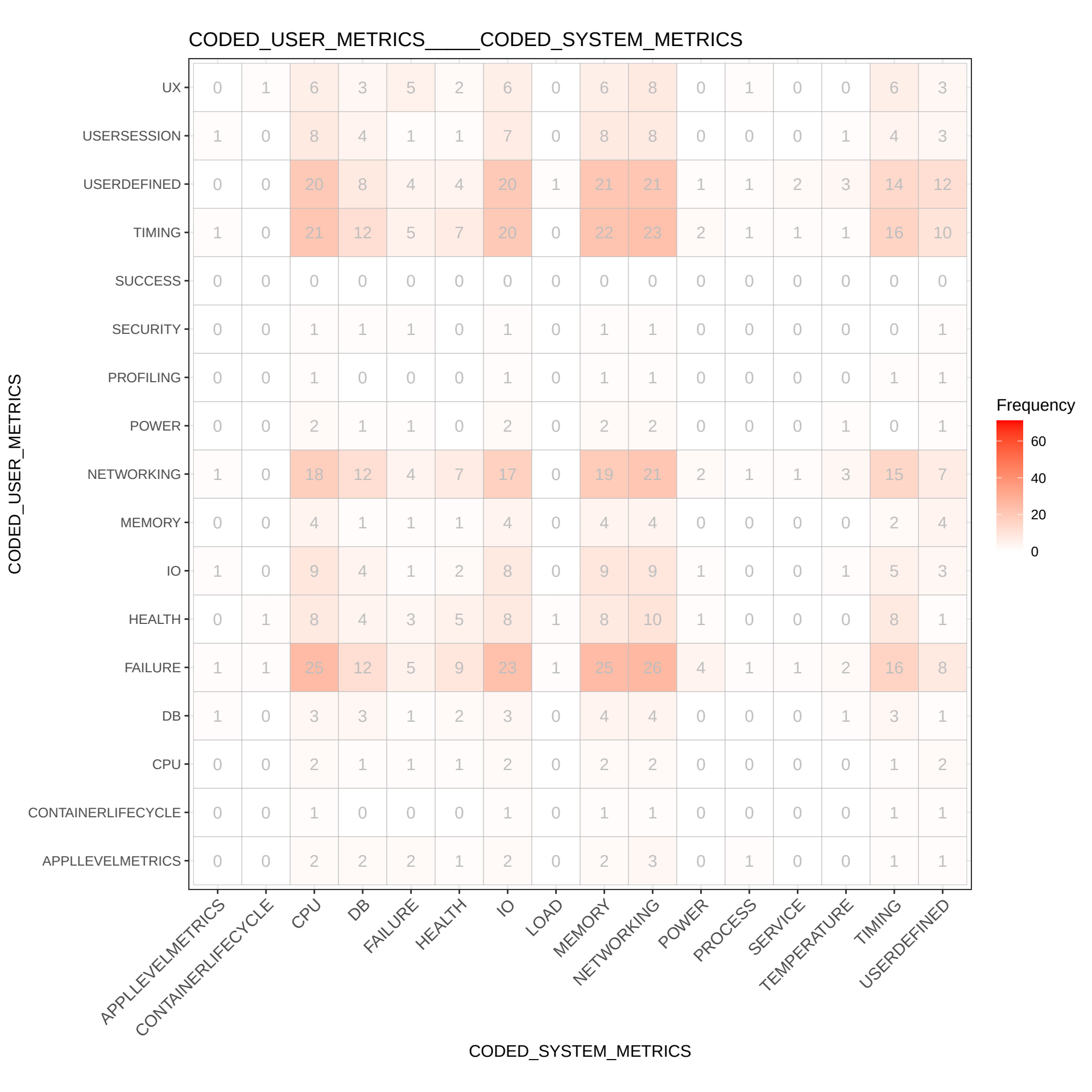
REQUIRESWIFTBINARIESV412 0 0 0 1 0
REQUIRESPECIFICOS 0 5 5 4 9
REQUIRESPECIFICDB 0 0 0 0 1
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 0 0 0 1 0
REQUIREPLUGIN 0 0 0 1 1
REQUIRENODEJS 0 0 0 2 1
REQUIREJVM 0 0 0 3 3
REQUIREINSTRUMENTATION 0 5 5 5 6
REQUIREEXTERNALDATASTORAGE 0 1 1 0 0
REQUIREDOCKER 0 1 1 0 4
REQUIRECONNECTIONTOBACKEND 0 3 3 5 4
REQUIRECODEREBUILDING 0 0 0 1 1
REQUIREAGENT 0 10 9 7 13
MOSTOFTHESYSTEMSARESUPPORTED 0 6 6 6 6
MAINTAINEDINYOUROWNSYSTEM 0 0 0 1 1
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 1 1 0 1
CROSSPLATFORM 0 1 1 1 1
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0

CODED_ASSUMPTIONS_____CODED_INTEGRATI
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS
RUNASSAAS
REQUIREVISUALIZER
REQUIRESWIFTBINARIESV412
REQUIRESPECIFICOS
REQUIRESPECIFICDB
REQUIRESCRIPTNOTBLOCKEDBYBROWSER
REQUIREPLUGIN
REQUIRENODEJS
REQUIREJVM
REQUIREINSTRUMENTATION
REQUIREEXTERNALDATASTORAGE
REQUIREDOCKER
REQUIRECONNECTIONTOBACKEND
REQUIRECODEREBUILDING
REQUIREAGENT
MOSTOFTHESYSTEMSARESUPPORTED
MAINTAINEDINYOUROWNSYSTEM
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION
CROSSPLATFORM
0 1
3 2
1 0
1 0
9 2
1 0
0 1
0 1
2 0
3 0
6 0
1 0
2 2
3 2
1 0
10 3
6 1
1 0
0 1
1 0
NO
YES
CODED_ASSUMPTIONS
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0

CODED_ASSUMPTIONS_____ADDRESSED_CHALLENGES
CODED_ASSUMPTIONS
TRACINGONLYSUPPORTSJAVABASEDAPPLICATIONS 1 1 1 1 1 1 1 1 1
RUNASSAAS 5 3 5 5 3 4 4 5 5
REQUIREVISUALIZER 0 0 1 1 1 0 0 0 0
REQUIRESWIFTBINARIESV412 1 0 0 0 0 0 0 0 0
REQUIRESPECIFICOS 8 6 5 8 6 4 4 5 4
REQUIRESPECIFICDB 1 0 1 1 0 0 1 1 0
REQUIRESCRIPTNOTBLOCKEDBYBROWSER 1 0 0 1 1 0 0 0 1
REQUIREPLUGIN 0 0 0 1 1 1 0 0 0
REQUIRENODEJS 1 2 1 2 1 1 0 1 0
REQUIREJVM 1 1 1 2 1 2 1 1 0
REQUIREINSTRUMENTATION 4 5 5 6 5 0 3 4 1
REQUIREEXTERNALDATASTORAGE 0 0 1 1 1 1 1 0 0
REQUIREDOCKER 2 2 3 4 2 0 0 2 0
REQUIRECONNECTIONTOBACKEND 5 4 4 5 5 1 4 4 4
REQUIRECODEREBUILDING 0 1 1 1 0 0 0 1 0
REQUIREAGENT 12 9 10 12 11 6 9 11 6
MOSTOFTHESYSTEMSARESUPPORTED 6 4 6 6 5 6 5 4 2
MAINTAINEDINYOUROWNSYSTEM 0 0 0 0 0 0 0 0 1
HAYSTACKCLIENTJAVANEEDSOPENTRACINGVERSION 0 1 0 1 1 0 0 1 0
CROSSPLATFORM 1 0 1 1 1 1 1 1 0
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0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USERSESSION 1 0 8 4 1 1 7 0 8 8 0 0 0 1 4 3
USERDEFINED 0 0 20 8 4 4 20 1 21 21 1 1 2 3 14 12
TIMING 1 0 21 12 5 7 20 0 22 23 2 1 1 1 16 10
SUCCESS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SECURITY 0 0 1 1 1 0 1 0 1 1 0 0 0 0 0 1
PROFILING 0 0 1 0 0 0 1 0 1 1 0 0 0 0 1 1
POWER 0 0 2 1 1 0 2 0 2 2 0 0 0 1 0 1
NETWORKING 1 0 18 12 4 7 17 0 19 21 2 1 1 3 15 7
MEMORY 0 0 4 1 1 1 4 0 4 4 0 0 0 0 2 4
IO 1 0 9 4 1 2 8 0 9 9 1 0 0 1 5 3
HEALTH 0 1 8 4 3 5 8 1 8 10 1 0 0 0 8 1
FAILURE 1 1 25 12 5 9 23 1 25 26 4 1 1 2 16 8
DB 1 0 3 3 1 2 3 0 4 4 0 0 0 1 3 1
CPU 0 0 2 1 1 1 2 0 2 2 0 0 0 0 1 2
CONTAINERLIFECYCLE 0 0 1 0 0 0 1 0 1 1 0 0 0 0 1 1
APPLLEVELMETRICS 0 0 2 2 2 1 2 0 2 3 0 1 0 0 1 1
APPLLEVELMETRICS
CONTAINERLIFECYCLE
CPU
DB
FAILURE
HEALTH
IO
LOAD
MEMORY
NETWORKING
POWER
PROCESS
SERVICE
TEMPERATURE
TIMING
USERDEFINED
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Frequency
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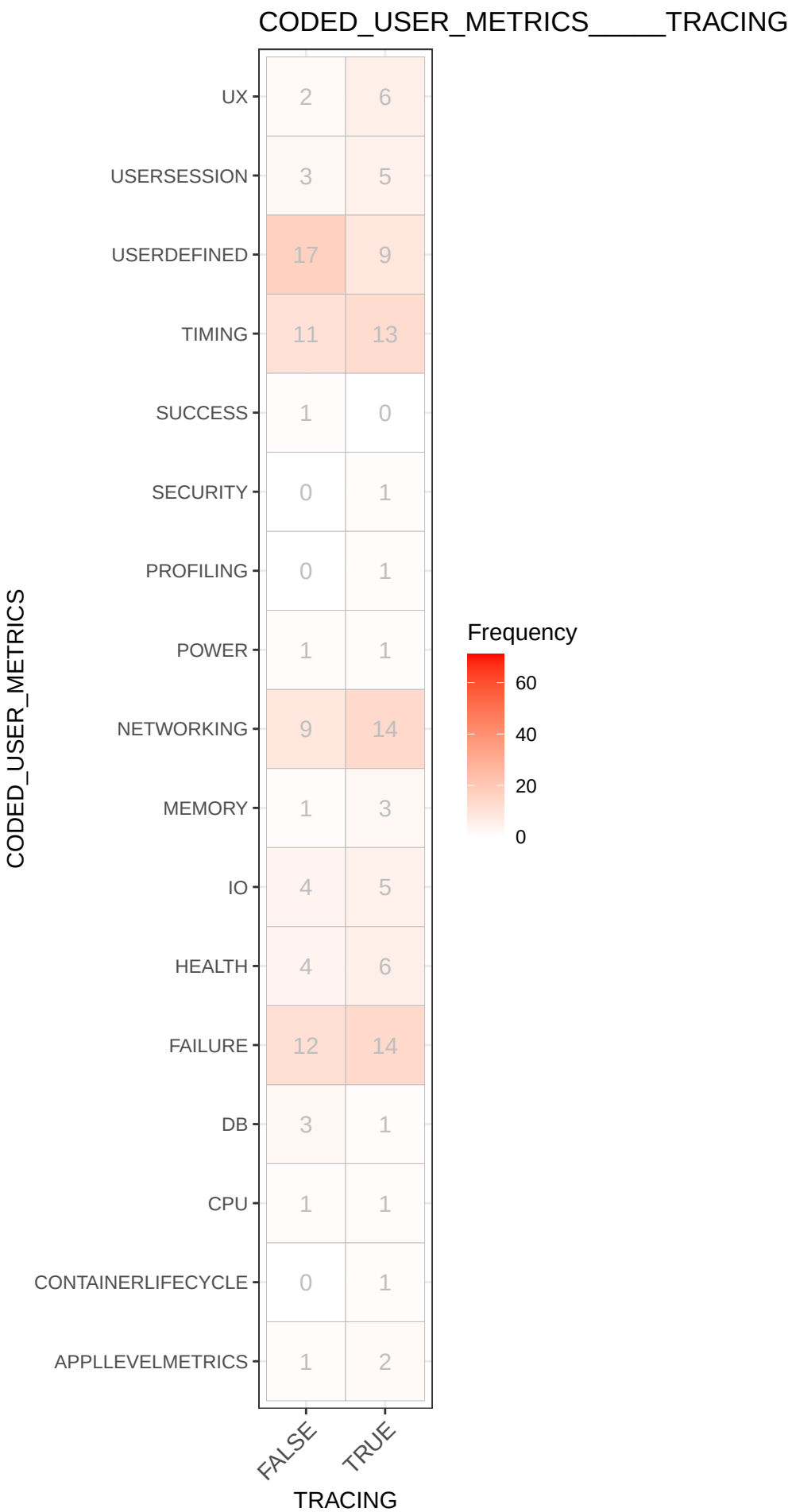
CODED_USER_METRICS_____TRACING
CODED_USER_METRICS
UX
USERSESSION
USERDEFINED
TIMING
SUCCESS
SECURITY
PROFILING
POWER
NETWORKING
MEMORY
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
2
6
3
5
17
9
11
13
1
0
0
1
0
1
1
1
9
14
1
3
4
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6
12
14
3
1
1
1
0
1
1
2
FALSE
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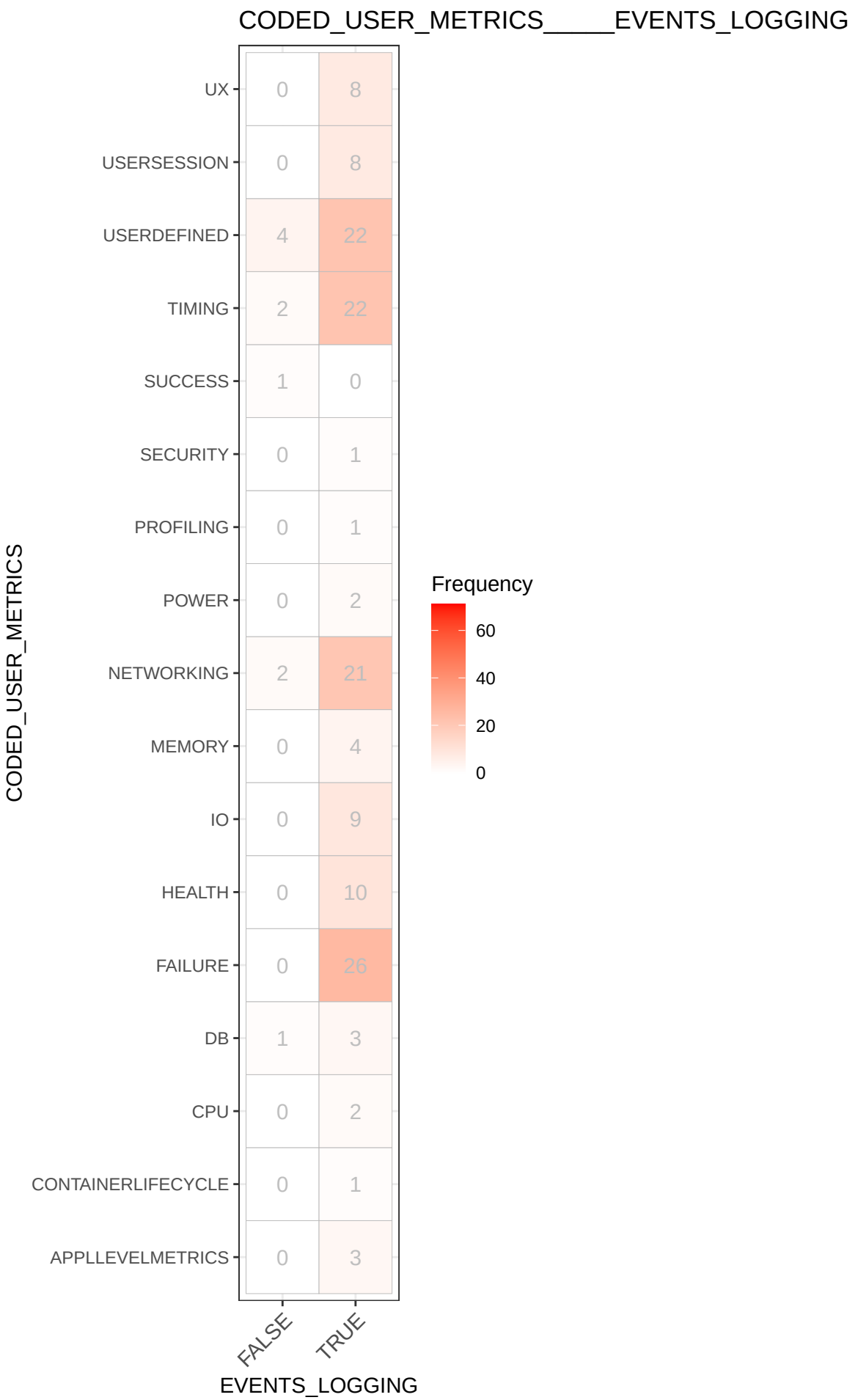
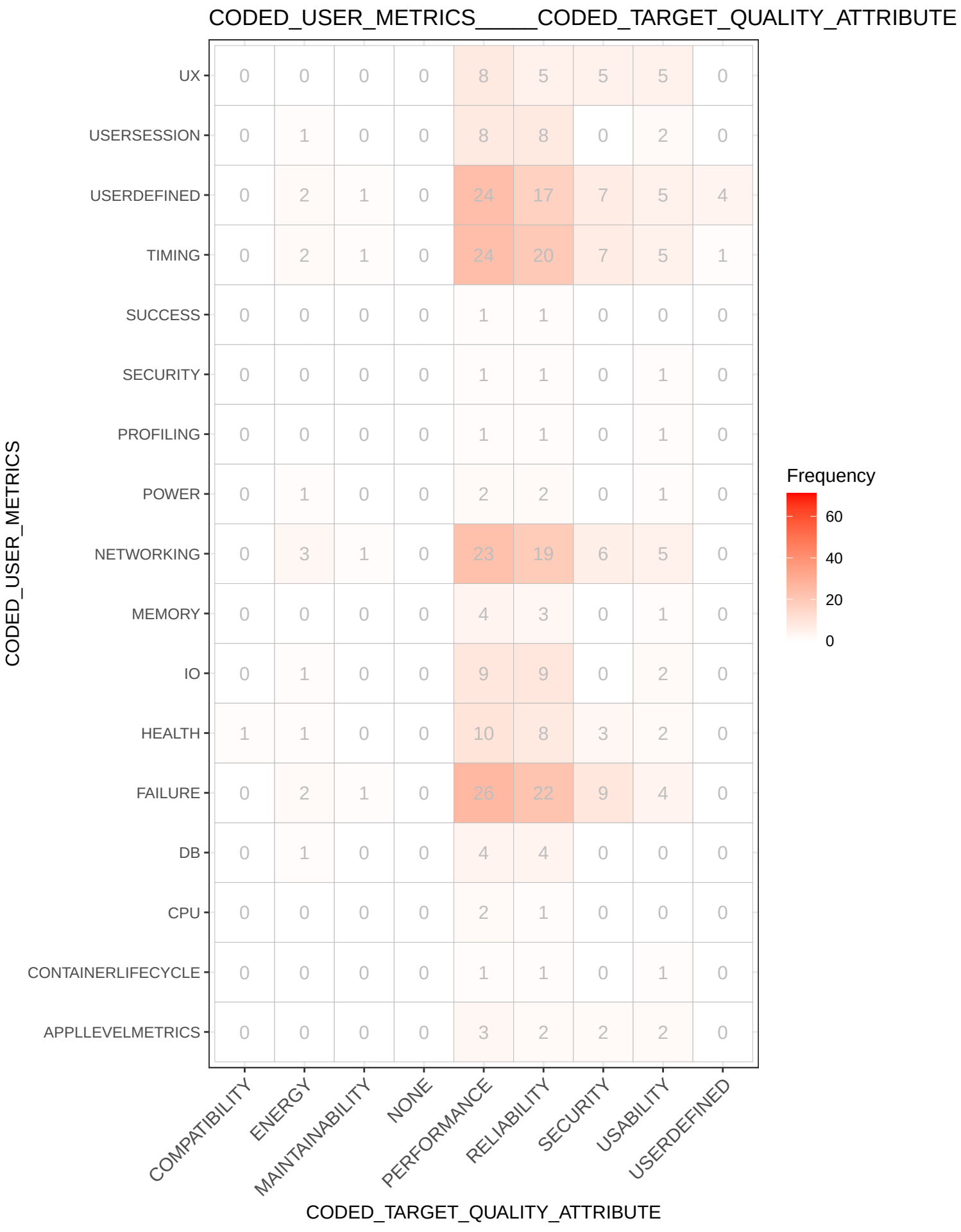
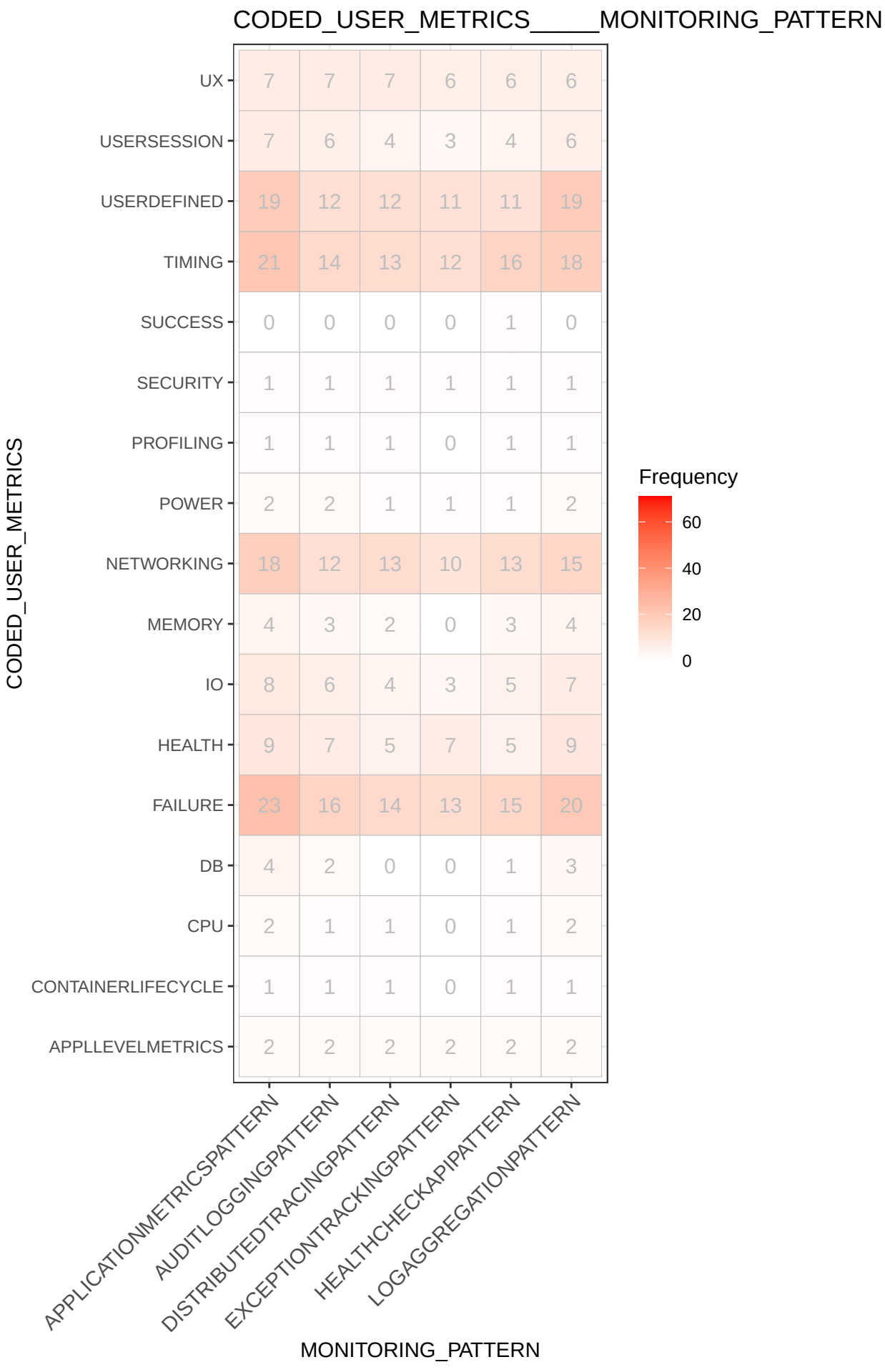
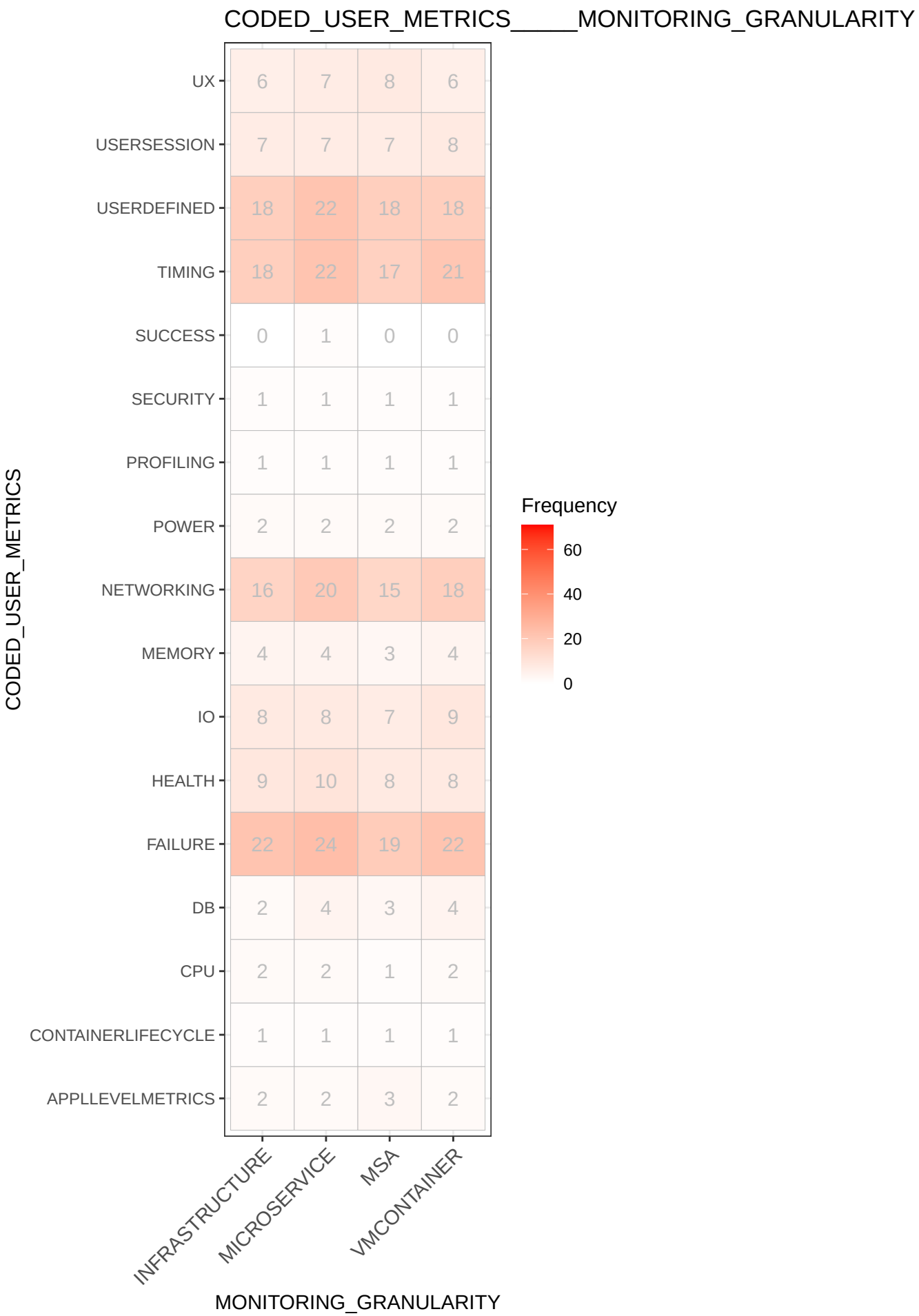
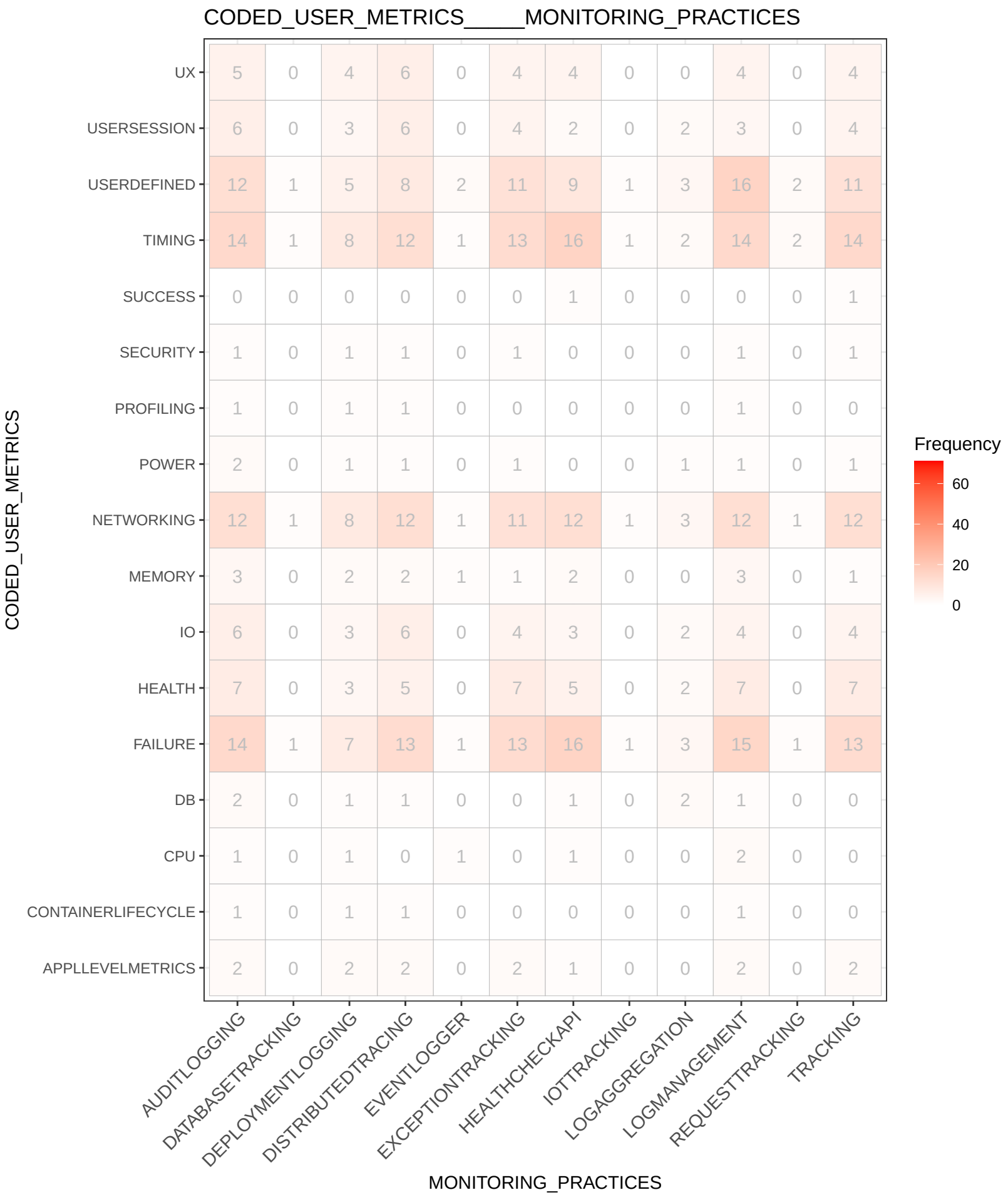
TRACING
Frequency
60
40
20
0


CODED_USER_METRICS_____EVENTS_LOGGING
CODED_USER_METRICS
UX
USERSESSION
USERDEFINED
TIMING
SUCCESS
SECURITY
PROFILING
POWER
NETWORKING
MEMORY
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
0
8
0
8
4
22
2
22
1
0
0
1
0
1
0
2
2
21
0
4
0
9
0
10
0
26
1
3
0
2
0
1
0
3
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0


CODED_USER_METRICS_____CODED_TARGET_QUALITY_ATTRIBUTE
CODED_USER_METRICS
UX 0 0 0 0 8 5 5 5 0
USERSESSION 0 1 0 0 8 8 0 2 0
USERDEFINED 0 2 1 0 24 17 7 5 4
TIMING 0 2 1 0 24 20 7 5 1
SUCCESS 0 0 0 0 1 1 0 0 0
SECURITY 0 0 0 0 1 1 0 1 0
PROFILING 0 0 0 0 1 1 0 1 0
POWER 0 1 0 0 2 2 0 1 0
NETWORKING 0 3 1 0 23 19 6 5 0
MEMORY 0 0 0 0 4 3 0 1 0
IO 0 1 0 0 9 9 0 2 0
HEALTH 1 1 0 0 10 8 3 2 0
FAILURE 0 2 1 0 26 22 9 4 0
DB 0 1 0 0 4 4 0 0 0
CPU 0 0 0 0 2 1 0 0 0
CONTAINERLIFECYCLE 0 0 0 0 1 1 0 1 0
APPLLEVELMETRICS 0 0 0 0 3 2 2 2 0
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0


CODED_USER_METRICS_____MONITORING_PATTERN
CODED_USER_METRICS
UX 7 7 7 6 6 6
USERSESSION 7 6 4 3 4 6
USERDEFINED 19 12 12 11 11 19
TIMING 21 14 13 12 16 18
SUCCESS 0 0 0 0 1 0
SECURITY 1 1 1 1 1 1
PROFILING 1 1 1 0 1 1
POWER 2 2 1 1 1 2
NETWORKING 18 12 13 10 13 15
MEMORY 4 3 2 0 3 4
IO 8 6 4 3 5 7
HEALTH 9 7 5 7 5 9
FAILURE 23 16 14 13 15 20
DB 4 2 0 0 1 3
CPU 2 1 1 0 1 2
CONTAINERLIFECYCLE 1 1 1 0 1 1
APPLLEVELMETRICS 2 2 2 2 2 2
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
40
20
0


CODED_USER_METRICS_____MONITORING_GRANULARITY
CODED_USER_METRICS
UX
USERSESSION
USERDEFINED
TIMING
SUCCESS
SECURITY
PROFILING
POWER
NETWORKING
MEMORY
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
6 7 8 6
7 7 7 8
18 22 18 18
18 22 17 21
0 1 0 0
1 1 1 1
1 1 1 1
2 2 2 2
16 20 15 18
4 4 3 4
8 8 7 9
9 10 8 8
22 24 19 22
2 4 3 4
2 2 1 2
1 1 1 1
2 2 3 2
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


CODED_USER_METRICS_____MONITORING_PRACTICES
CODED_USER_METRICS
UX 5 0 4 6 0 4 4 0 0 4 0 4
USERSESSION 6 0 3 6 0 4 2 0 2 3 0 4
USERDEFINED 12 1 5 8 2 11 9 1 3 16 2 11
TIMING 14 1 8 12 1 13 16 1 2 14 2 14
SUCCESS 0 0 0 0 0 0 1 0 0 0 0 1
SECURITY 1 0 1 1 0 1 0 0 0 1 0 1
PROFILING 1 0 1 1 0 0 0 0 0 1 0 0
POWER 2 0 1 1 0 1 0 0 1 1 0 1
NETWORKING 12 1 8 12 1 11 12 1 3 12 1 12
MEMORY 3 0 2 2 1 1 2 0 0 3 0 1
IO 6 0 3 6 0 4 3 0 2 4 0 4
HEALTH 7 0 3 5 0 7 5 0 2 7 0 7
FAILURE 14 1 7 13 1 13 16 1 3 15 1 13
DB 2 0 1 1 0 0 1 0 2 1 0 0
CPU 1 0 1 0 1 0 1 0 0 2 0 0
CONTAINERLIFECYCLE 1 0 1 1 0 0 0 0 0 1 0 0
APPLLEVELMETRICS 2 0 2 2 0 2 1 0 0 2 0 2
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
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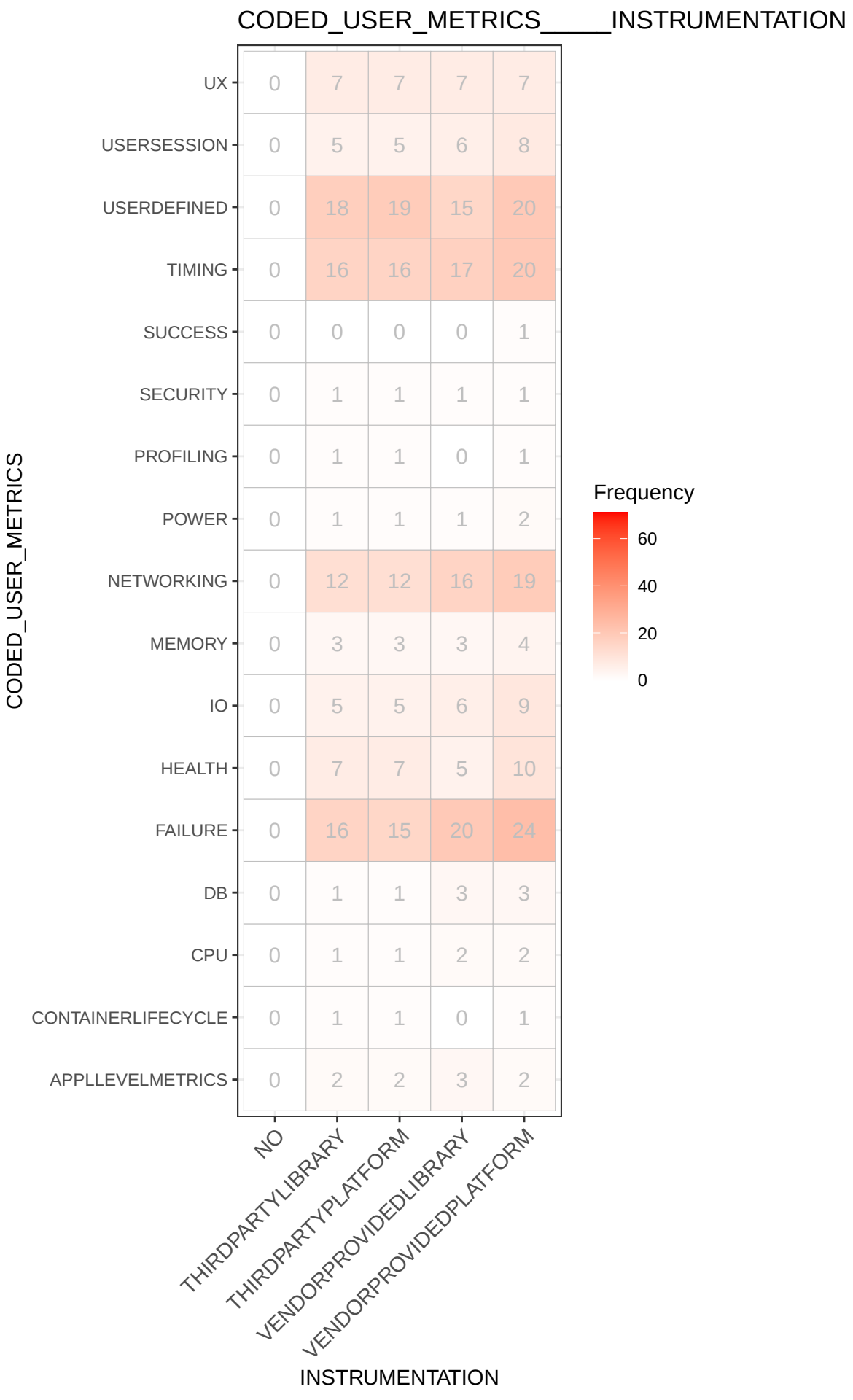
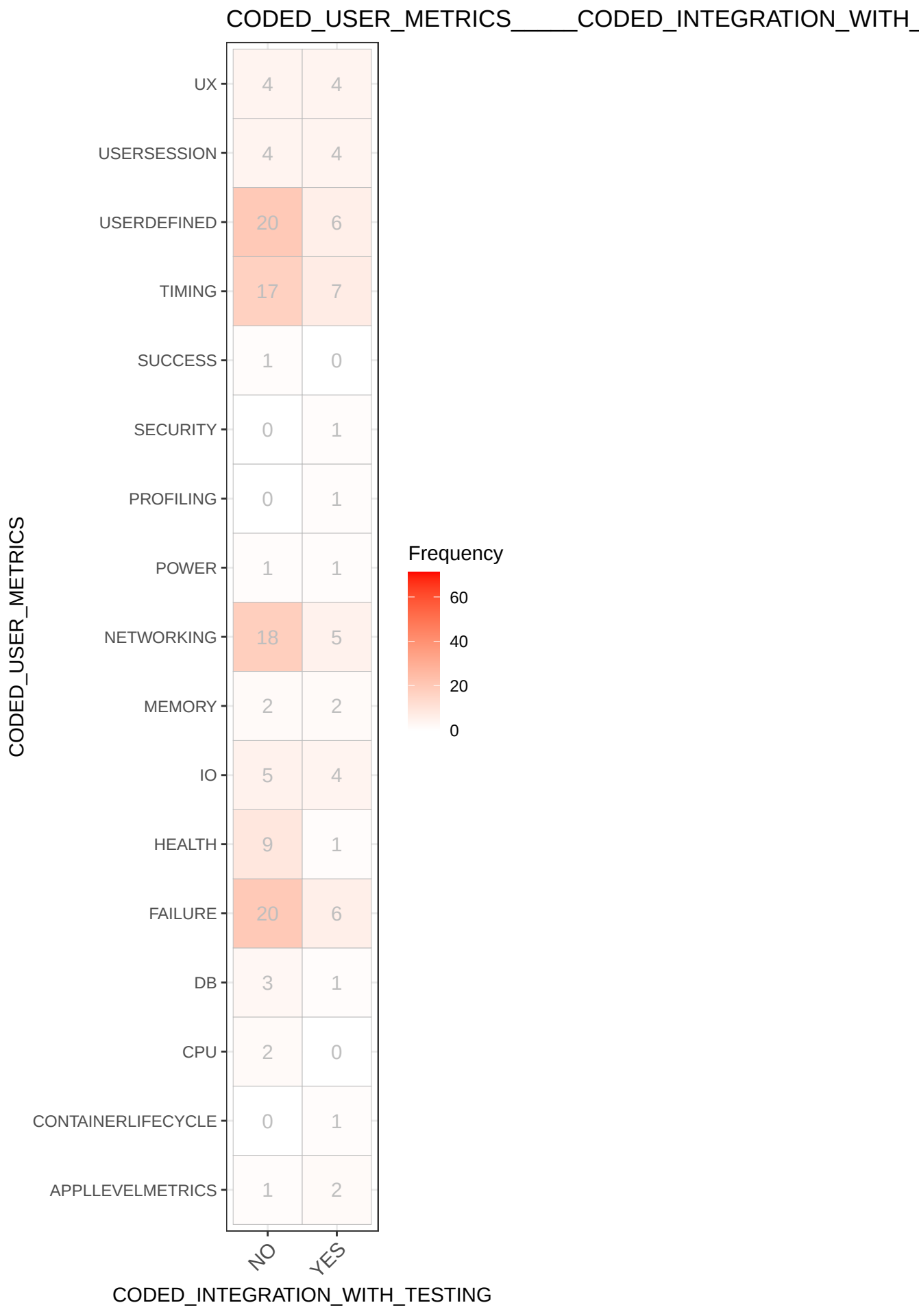
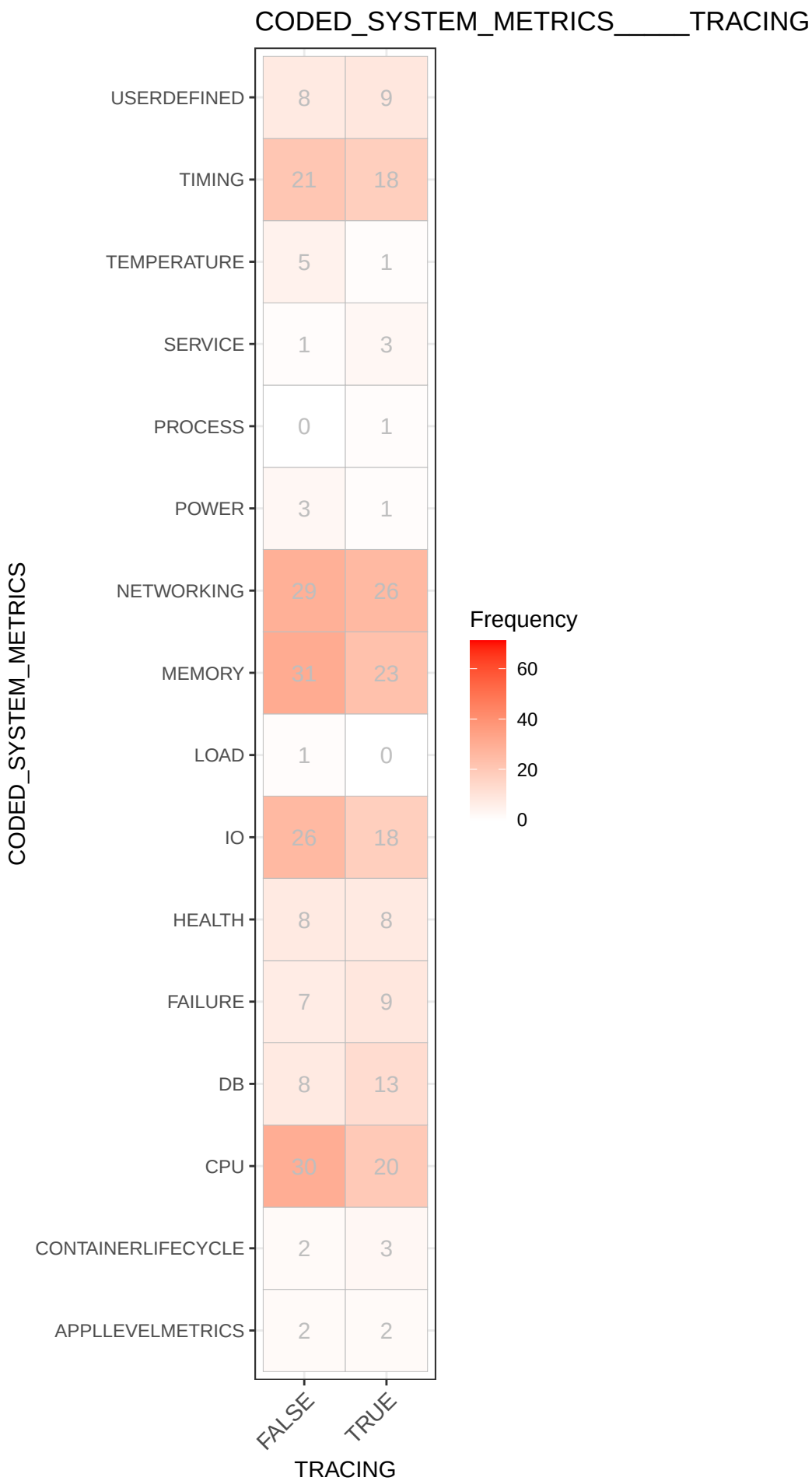
40
20
0


CODED_USER_METRICS_____INSTRUMENTATION
CODED_USER_METRICS
UX
USERSESSION
USERDEFINED
TIMING
SUCCESS
SECURITY
PROFILING
POWER
NETWORKING
MEMORY
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
0 7 7 7 7
0 5 5 6 8
0 18 19 15 20
0 16 16 17 20
0 0 0 0 1
0 1 1 1 1
0 1 1 0 1
0 1 1 1 2
0 12 12 16 19
0 3 3 3 4
0 5 5 6 9
0 7 7 5 10
0 16 15 20 24
0 1 1 3 3
0 1 1 2 2
0 1 1 0 1
0 2 2 3 2
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


CODED_USER_METRICS_____CODED_INTEGRATION_WITH_
UX
USERSESSION
USERDEFINED
TIMING
SUCCESS
SECURITY
PROFILING
POWER
NETWORKING
MEMORY
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
4
4
4
4
20
6
17
7
1
0
0
1
0
1
1
1
18
5
2
2
5
4
9
1
20
6
3
1
2
0
0
1
1
2
NO
YES
CODED_USER_METRICS
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0

CODED_USER_METRICS_____ADDRESSED_CHALLENGES
CODED_USER_METRICS
UX 5 6 5 7 7 4 5 4 4
USERSESSION 7 5 6 8 6 6 6 7 5
USERDEFINED 23 10 18 22 18 10 13 14 9
TIMING 19 11 17 21 15 12 17 14 10
SUCCESS 1 0 0 0 0 0 0 0 0
SECURITY 1 1 1 1 1 1 1 1 1
PROFILING 1 1 1 1 1 1 1 1 1
POWER 2 1 2 2 1 1 2 2 1
NETWORKING 19 11 16 20 15 10 15 14 10
MEMORY 4 2 3 3 2 2 3 3 3
IO 7 5 7 9 6 6 7 7 5
HEALTH 6 5 9 9 6 8 8 5 3
FAILURE 19 15 19 24 16 13 19 15 9
DB 3 0 3 3 2 1 3 2 1
CPU 2 0 1 1 0 0 1 1 1
CONTAINERLIFECYCLE 1 1 1 1 1 1 1 1 1
APPLLEVELMETRICS 3 2 2 3 3 1 2 2 3
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0


CODED_SYSTEM_METRICS_____TRACING
CODED_SYSTEM_METRICS
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
8
9
21
18
5
1
1
3
0
1
3
1
29
26
31
23
1
0
26
18
8
8
7
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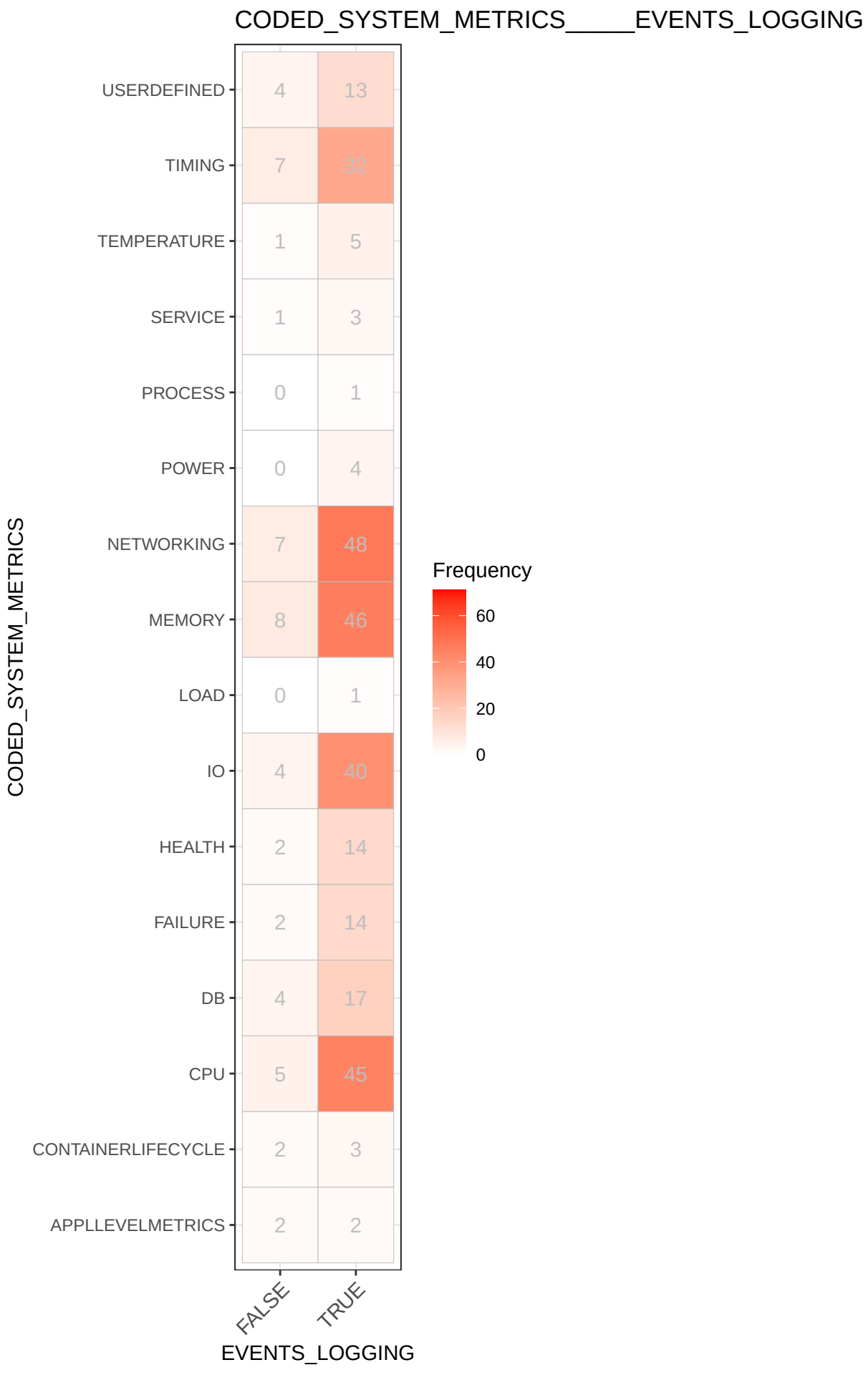
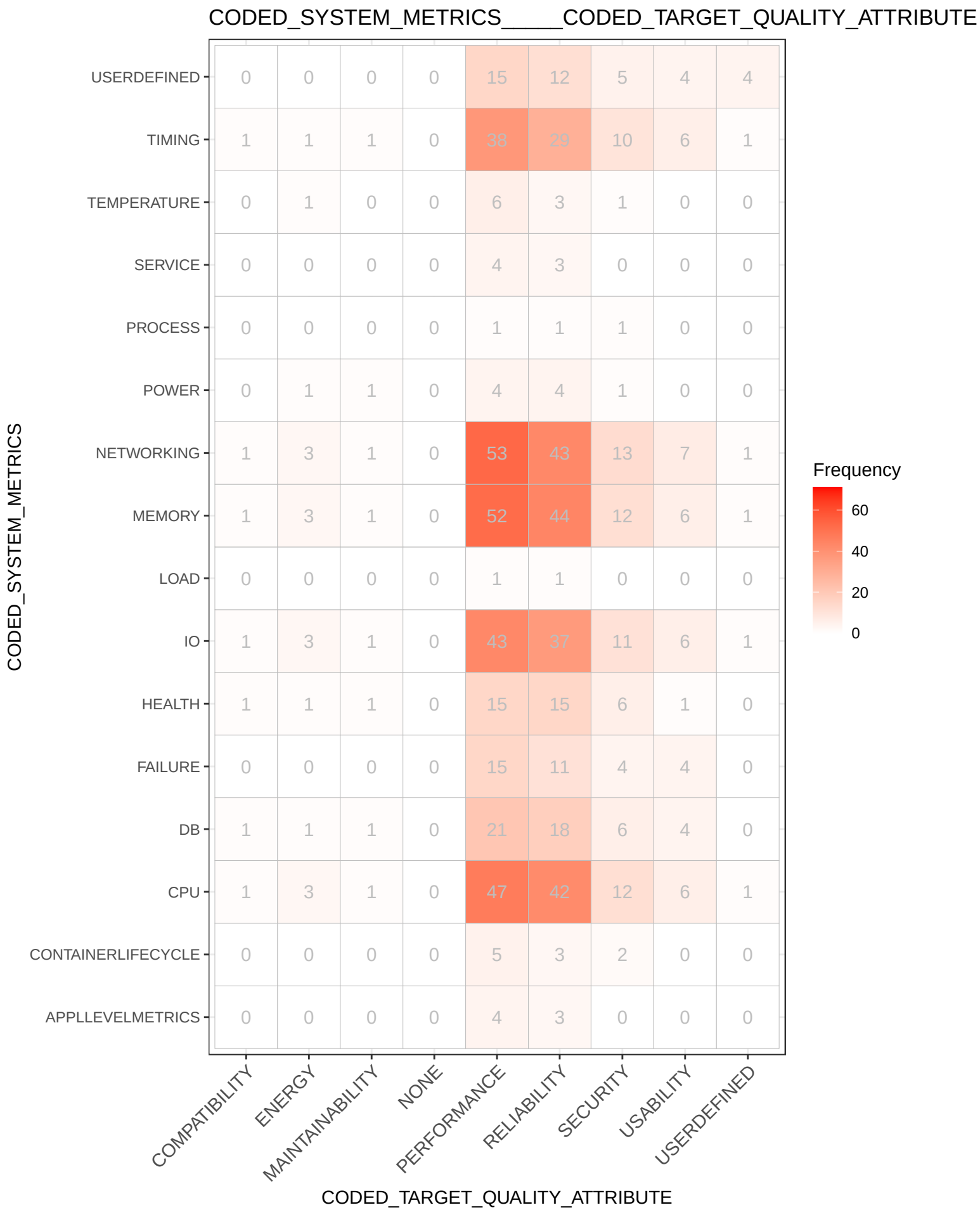
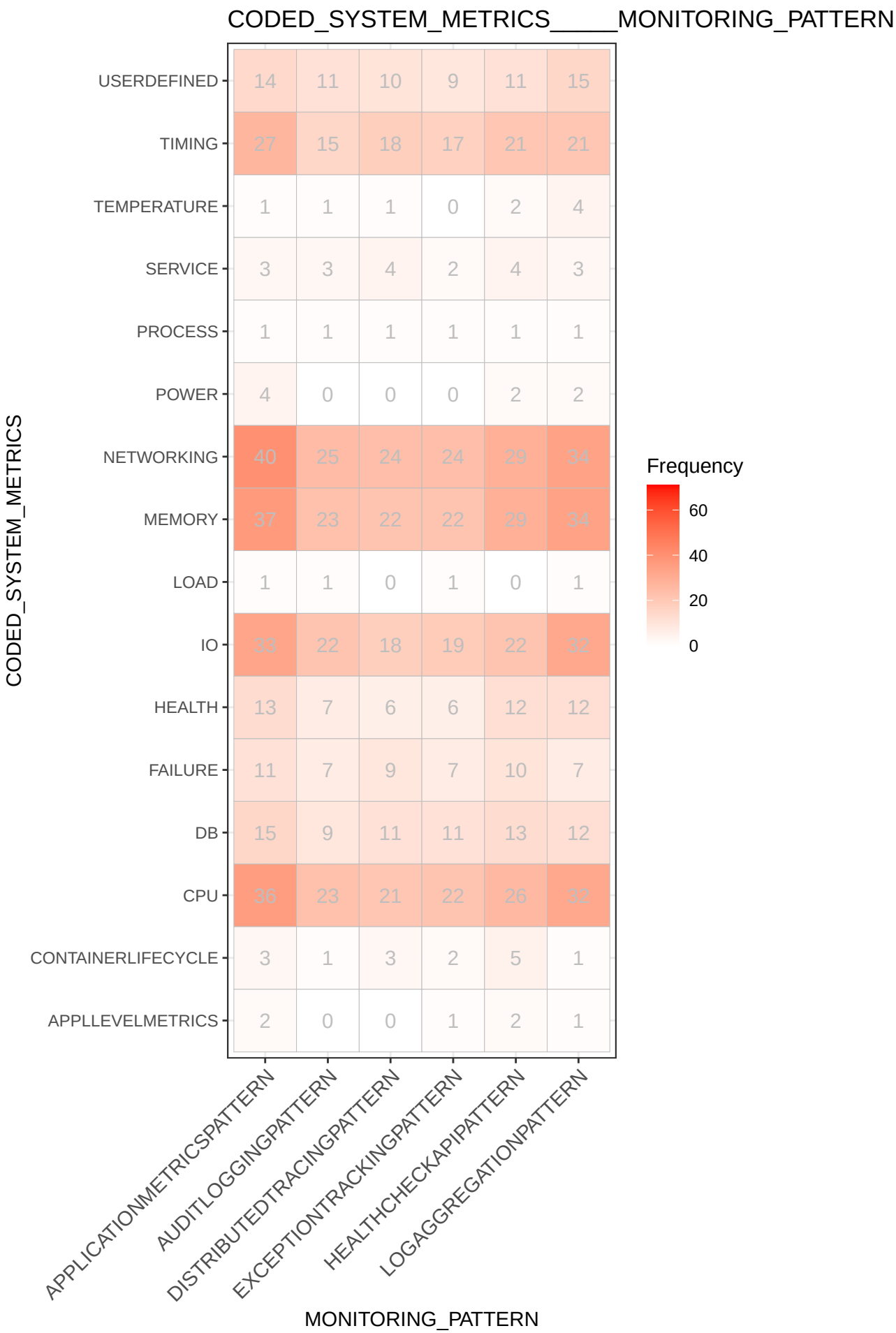
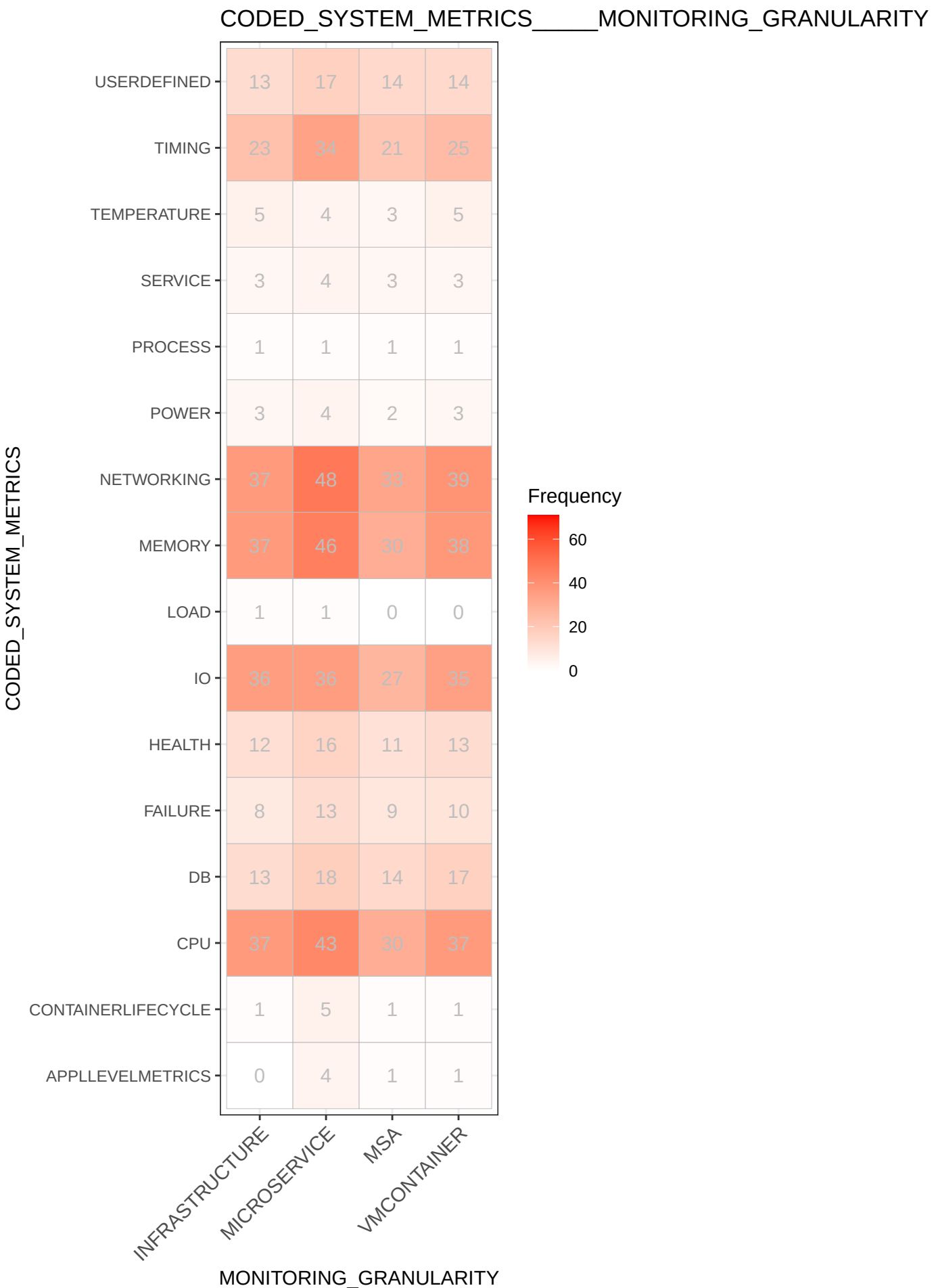
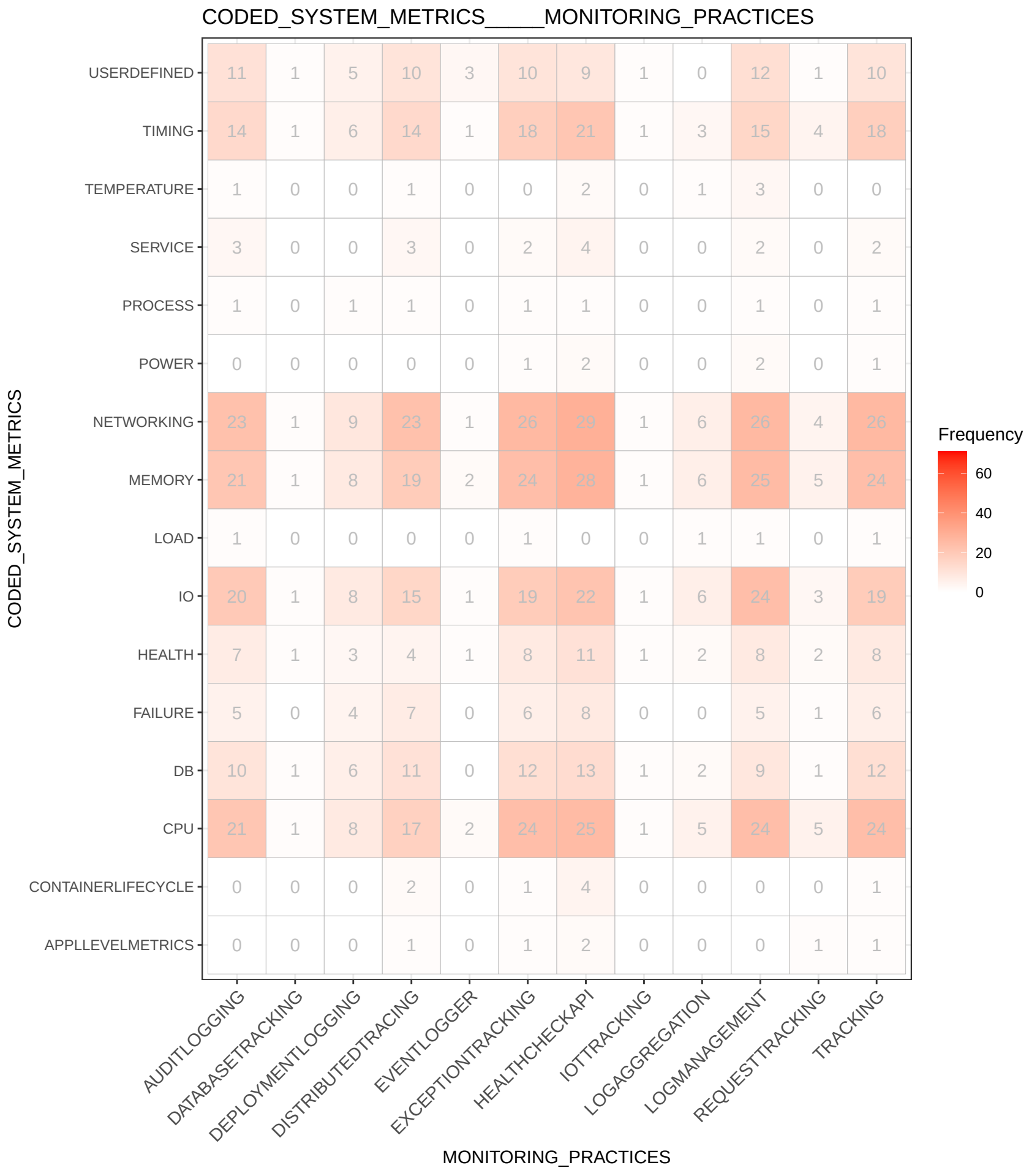
8
13
30
20
2
3
2
2
FALSE
TRUE
TRACING
Frequency
60
40
20
0

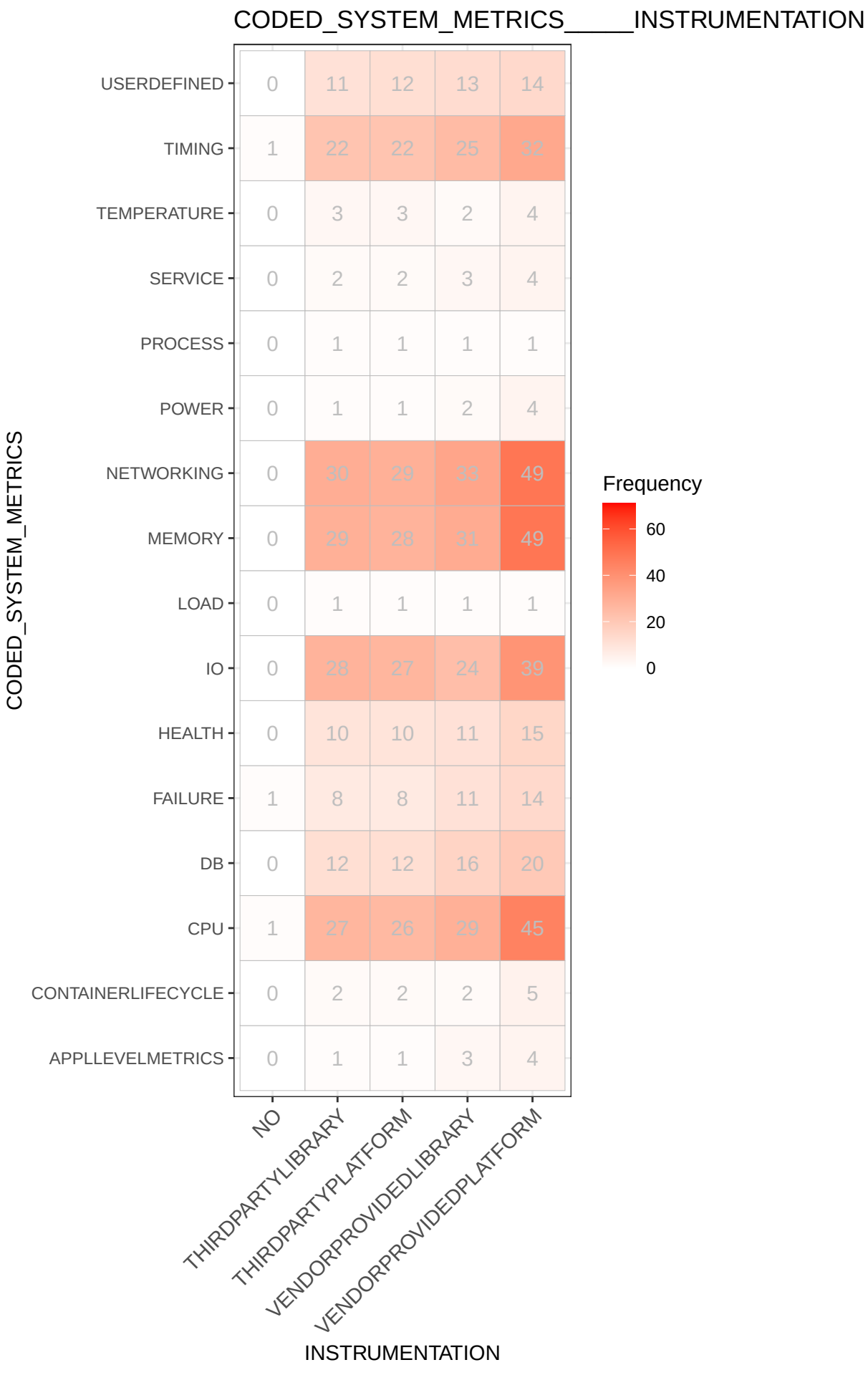

CODED_SYSTEM_METRICS_____EVENTS_LOGGING
CODED_SYSTEM_METRICS
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
4
13
7
32
1
5
1
3
0
1
0
4
7
48
8
46
0
1
4
40
2
14
2
14
4
17
5
45
2
3
2
2
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0

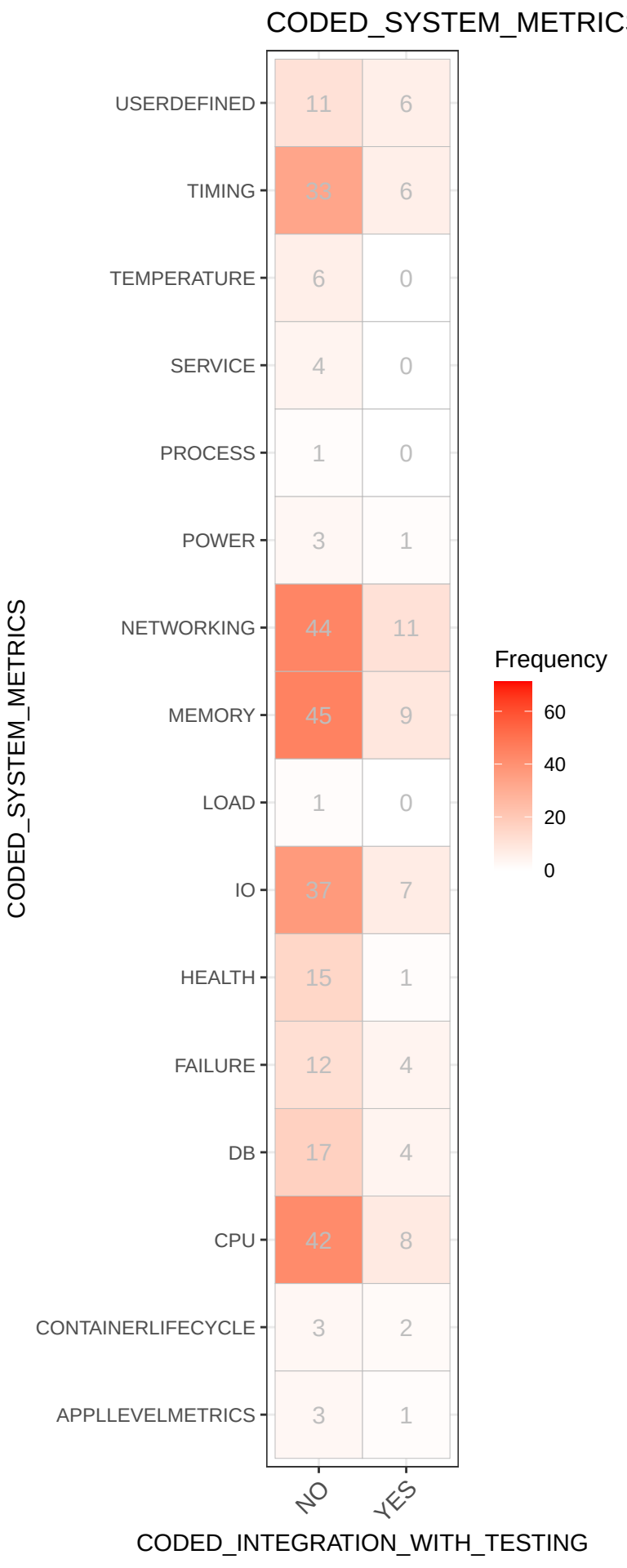

CODED_SYSTEM_METRICS_____CODED_TARGET_QUALITY_ATTRIBUTE
CODED_SYSTEM_METRICS
USERDEFINED 0 0 0 0 15 12 5 4 4
TIMING 1 1 1 0 38 29 10 6 1
TEMPERATURE 0 1 0 0 6 3 1 0 0
SERVICE 0 0 0 0 4 3 0 0 0
PROCESS 0 0 0 0 1 1 1 0 0
POWER 0 1 1 0 4 4 1 0 0
NETWORKING 1 3 1 0 53 43 13 7 1
MEMORY 1 3 1 0 52 44 12 6 1
LOAD 0 0 0 0 1 1 0 0 0
IO 1 3 1 0 43 37 11 6 1
HEALTH 1 1 1 0 15 15 6 1 0
FAILURE 0 0 0 0 15 11 4 4 0
DB 1 1 1 0 21 18 6 4 0
CPU 1 3 1 0 47 42 12 6 1
CONTAINERLIFECYCLE 0 0 0 0 5 3 2 0 0
APPLLEVELMETRICS 0 0 0 0 4 3 0 0 0
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0

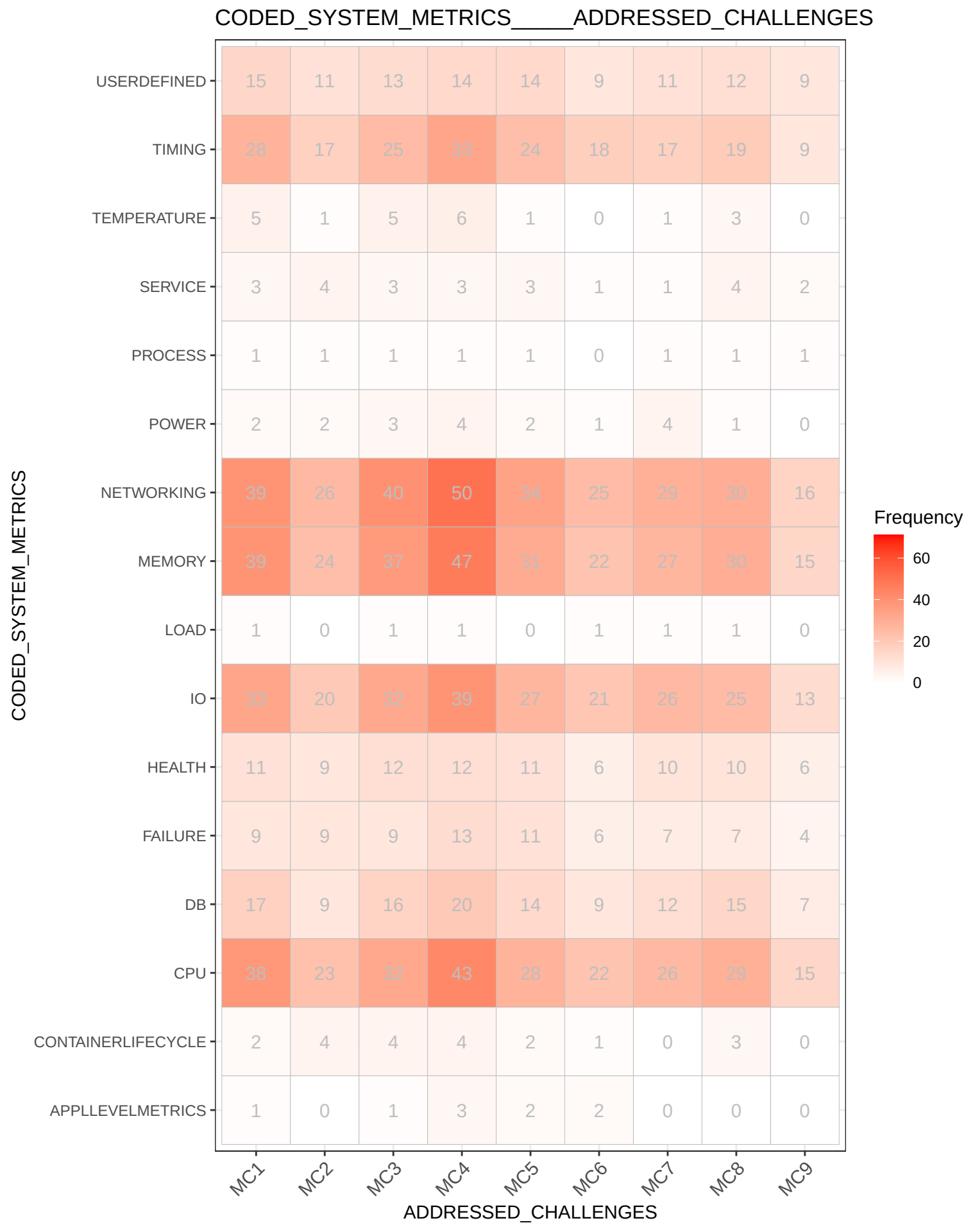

CODED_SYSTEM_METRICS_____MONITORING_PATTERN
CODED_SYSTEM_METRICS
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
14 11 10 9 11 15
27 15 18 17 21 21
1 1 1 0 2 4
3 3 4 2 4 3
1 1 1 1 1 1
4 0 0 0 2 2
40 25 24 24 29 34
37 23 22 22 29 34
1 1 0 1 0 1
33 22 18 19 22 32
13 7 6 6 12 12
11 7 9 7 10 7
15 9 11 11 13 12
36 23 21 22 26 32
3 1 3 2 5 1
2 0 0 1 2 1
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
60
40
20
0

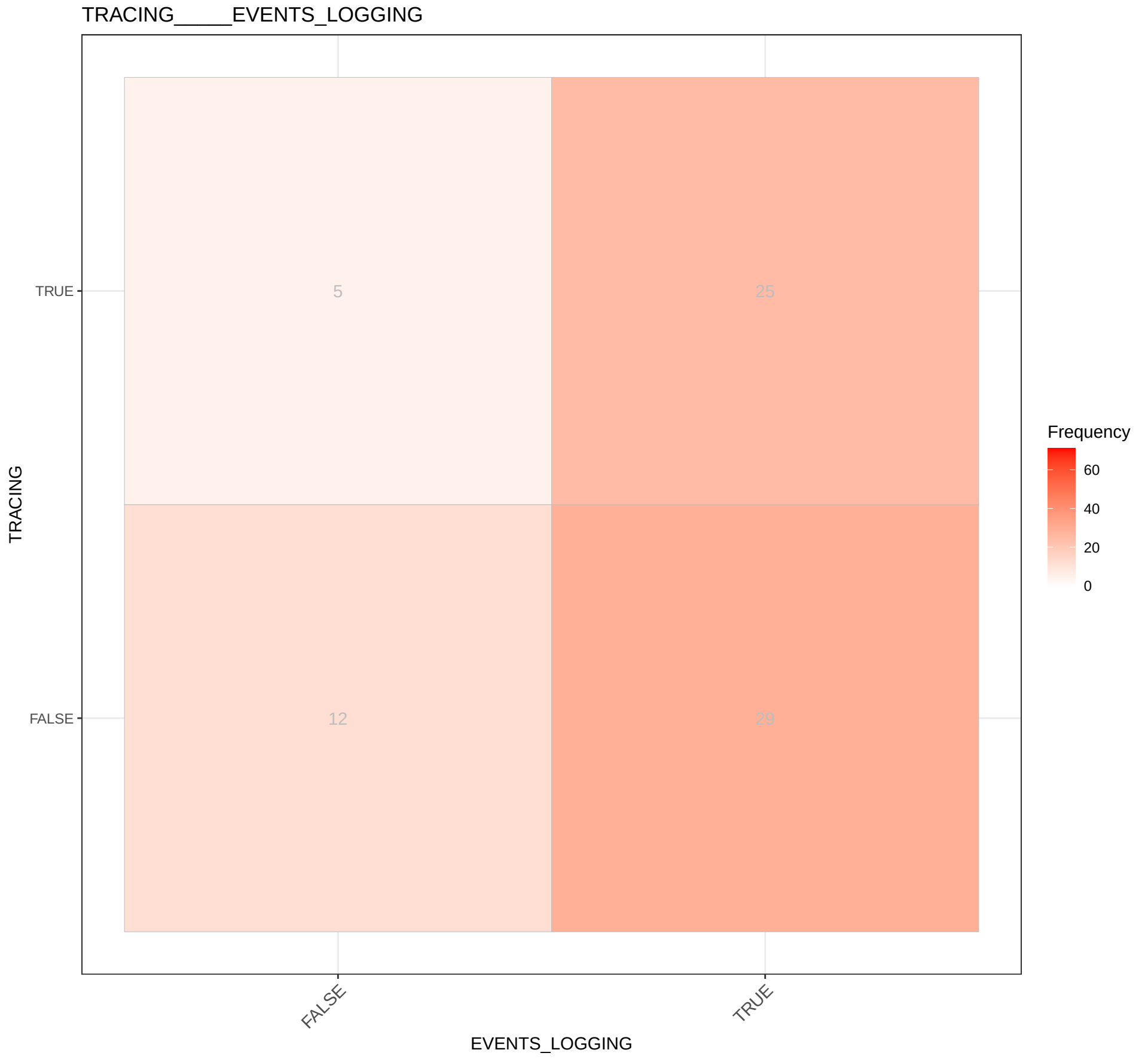

CODED_SYSTEM_METRICS_____MONITORING_GRANULARITY
CODED_SYSTEM_METRICS
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
13 17 14 14
23 34 21 25
5 4 3 5
3 4 3 3
1 1 1 1
3 4 2 3
37 48 33 39
37 46 30 38
1 1 0 0
36 36 27 35
12 16 11 13
8 13 9 10
13 18 14 17
37 43 30 37
1 5 1 1
0 4 1 1
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


CODED_SYSTEM_METRICS_____MONITORING_PRACTICES
CODED_SYSTEM_METRICS
USERDEFINED 11 1 5 10 3 10 9 1 0 12 1 10
TIMING 14 1 6 14 1 18 21 1 3 15 4 18
TEMPERATURE 1 0 0 1 0 0 2 0 1 3 0 0
SERVICE 3 0 0 3 0 2 4 0 0 2 0 2
PROCESS 1 0 1 1 0 1 1 0 0 1 0 1
POWER 0 0 0 0 0 1 2 0 0 2 0 1
NETWORKING 23 1 9 23 1 26 29 1 6 26 4 26
MEMORY 21 1 8 19 2 24 28 1 6 25 5 24
LOAD 1 0 0 0 0 1 0 0 1 1 0 1
IO 20 1 8 15 1 19 22 1 6 24 3 19
HEALTH 7 1 3 4 1 8 11 1 2 8 2 8
FAILURE 5 0 4 7 0 6 8 0 0 5 1 6
DB 10 1 6 11 0 12 13 1 2 9 1 12
CPU 21 1 8 17 2 24 25 1 5 24 5 24
CONTAINERLIFECYCLE 0 0 0 2 0 1 4 0 0 0 0 1
APPLLEVELMETRICS 0 0 0 1 0 1 2 0 0 0 1 1
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
20
0


CODED_SYSTEM_METRICS_____INSTRUMENTATION
CODED_SYSTEM_METRICS
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
0 11 12 13 14
1 22 22 25 32
0 3 3 2 4
0 2 2 3 4
0 1 1 1 1
0 1 1 2 4
0 30 29 33 49
0 29 28 31 49
0 1 1 1 1
0 28 27 24 39
0 10 10 11 15
1 8 8 11 14
0 12 12 16 20
1 27 26 29 45
0 2 2 2 5
0 1 1 3 4
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


CODED_SYSTEM_METRICS_____CODED_INTEGRATION_WIT
USERDEFINED
TIMING
TEMPERATURE
SERVICE
PROCESS
POWER
NETWORKING
MEMORY
LOAD
IO
HEALTH
FAILURE
DB
CPU
CONTAINERLIFECYCLE
APPLLEVELMETRICS
11
6
33
6
6
0
4
0
1
0
3
1
44
11
45
9
1
0
37
7
15
1
12
4
17
4
42
8
3
2
3
1
NO
YES
CODED_SYSTEM_METRICS
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0


CODED_SYSTEM_METRICS_____ADDRESSED_CHALLENGES
CODED_SYSTEM_METRICS
USERDEFINED 15 11 13 14 14 9 11 12 9
TIMING 28 17 25 33 24 18 17 19 9
TEMPERATURE 5 1 5 6 1 0 1 3 0
SERVICE 3 4 3 3 3 1 1 4 2
PROCESS 1 1 1 1 1 0 1 1 1
POWER 2 2 3 4 2 1 4 1 0
NETWORKING 39 26 40 50 34 25 29 30 16
MEMORY 39 24 37 47 31 22 27 30 15
LOAD 1 0 1 1 0 1 1 1 0
IO 33 20 32 39 27 21 26 25 13
HEALTH 11 9 12 12 11 6 10 10 6
FAILURE 9 9 9 13 11 6 7 7 4
DB 17 9 16 20 14 9 12 15 7
CPU 38 23 32 43 28 22 26 29 15
CONTAINERLIFECYCLE 2 4 4 4 2 1 0 3 0
APPLLEVELMETRICS 1 0 1 3 2 2 0 0 0
MC1 MC2 MC3 MC4 MC5 MC6 MC7 MC8 MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0


TRACING_____EVENTS_LOGGING
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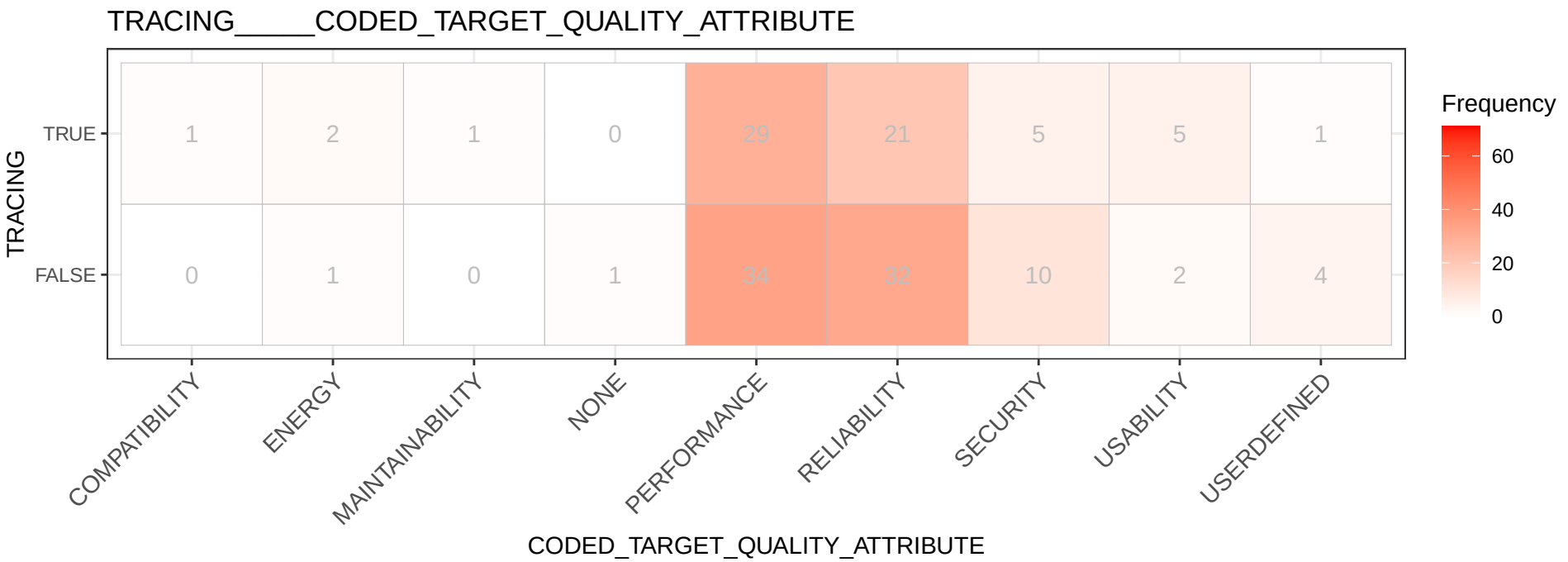
5
25
12
29
TRACING
FALSE
TRUE
EVENTS_LOGGING
Frequency
60
40
20
0


TRACING_____CODED_TARGET_QUALITY_ATTRIBUTE
TRACING
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FALSE
1
2
1
0
29
21
5
5
1
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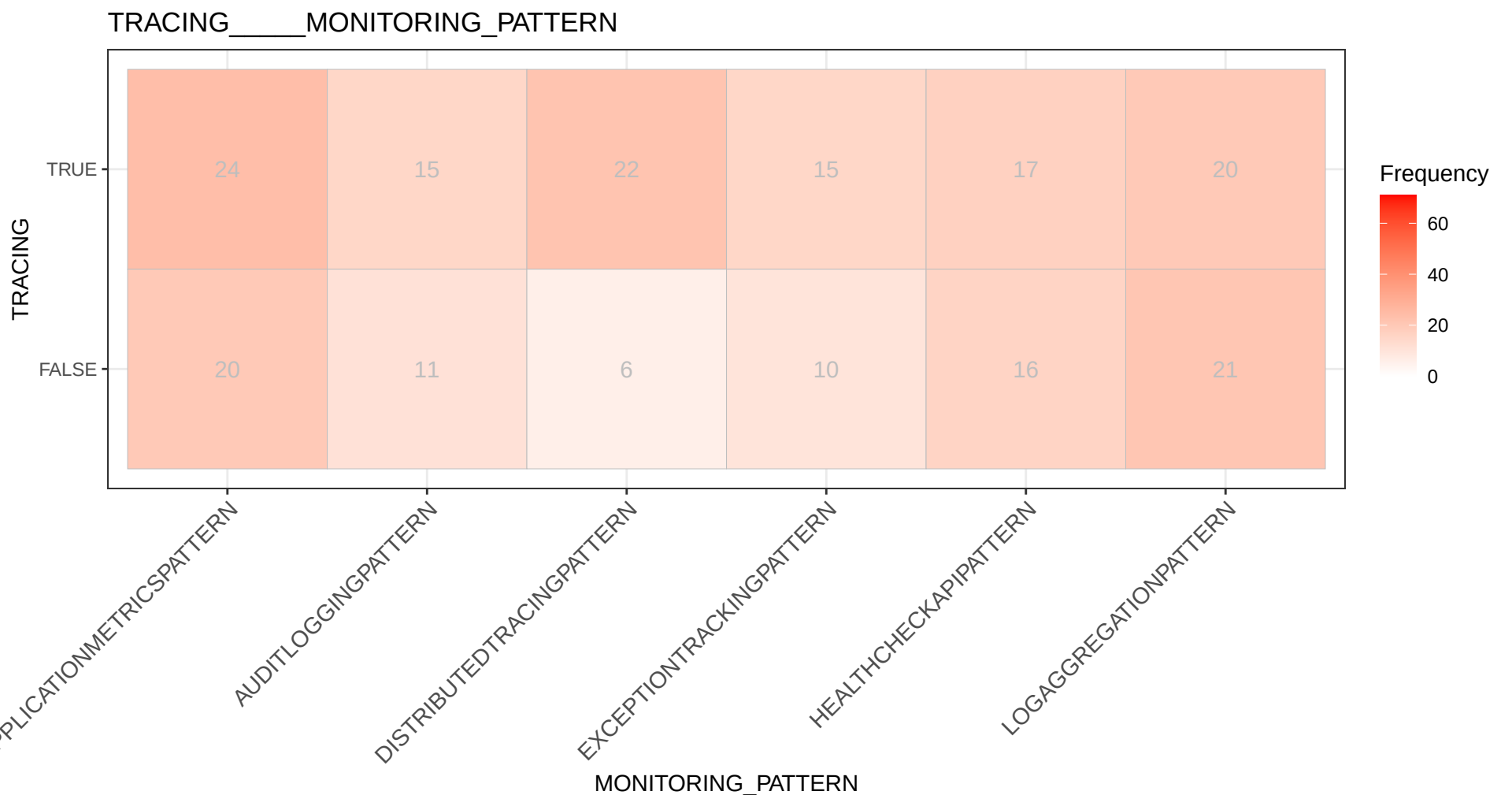
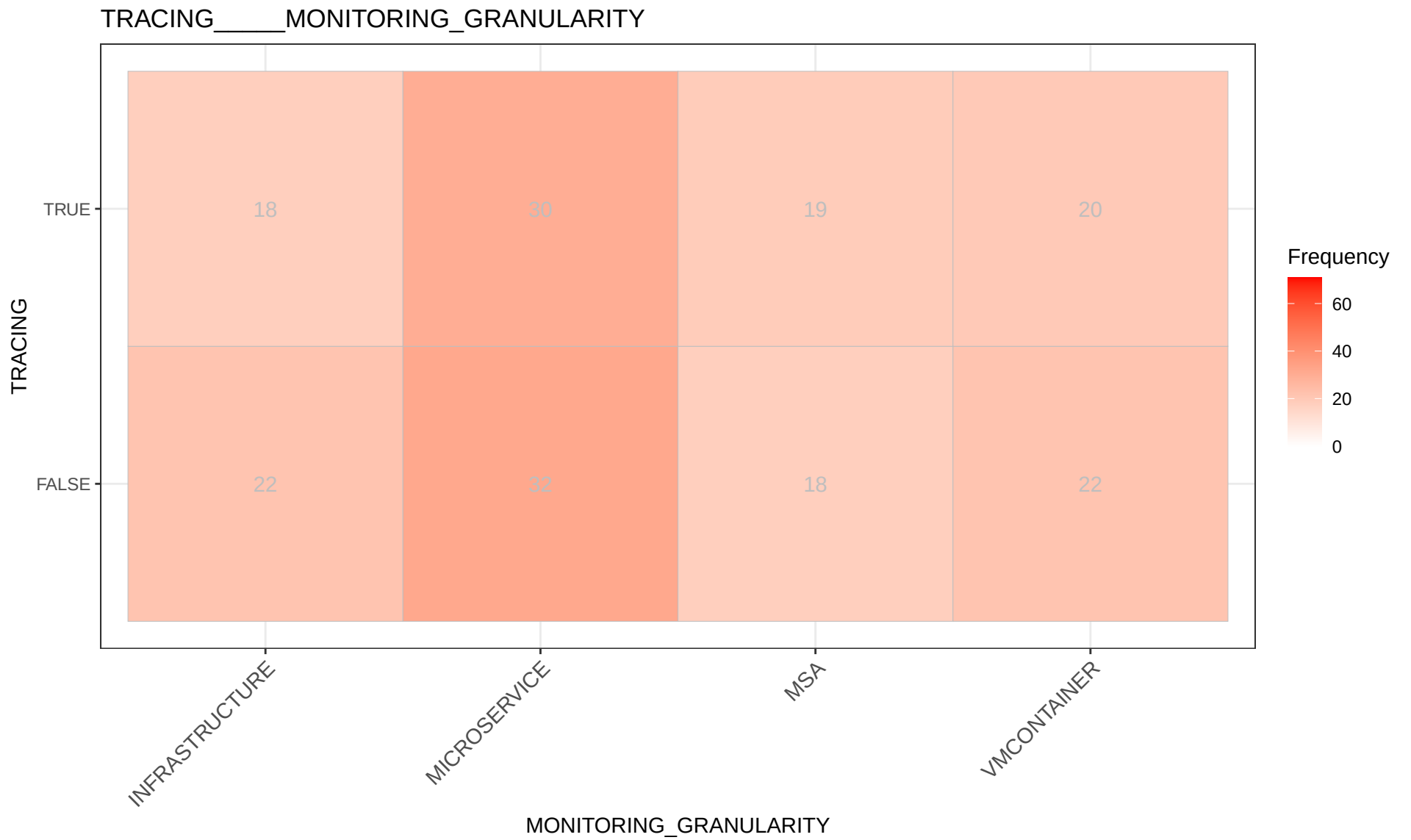
32
10
2
4
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
40
20
0


TRACING_____MONITORING_PATTERN
TRACING
TRUE
FALSE
24
15
22
15
17
20
20
11
6
10
16
21
Frequency
60
40
20
0
PLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN


TRACING_____MONITORING_GRANULARITY
TRACING
TRUE
FALSE
18
30
19
20
22
32
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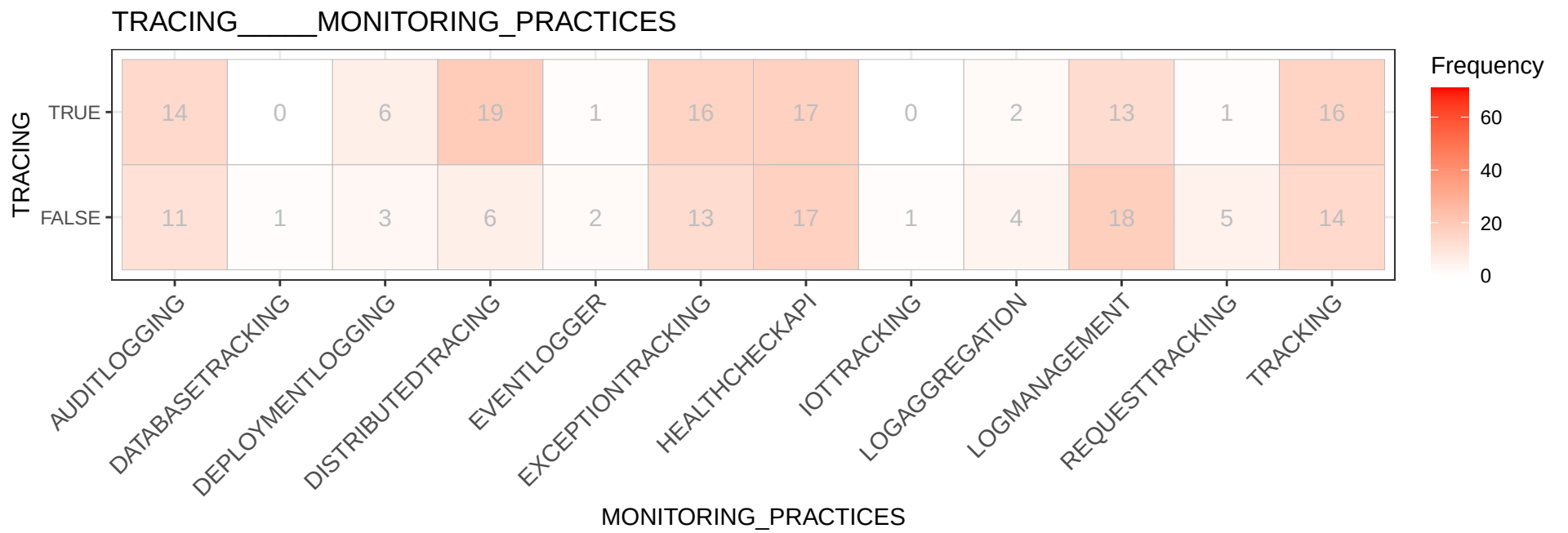
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0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TRACING
TRUE
FALSE
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6
19
1
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17
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2
13
1
16
11
1
3
6
2
13
17
1
4
18
5
14
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
40
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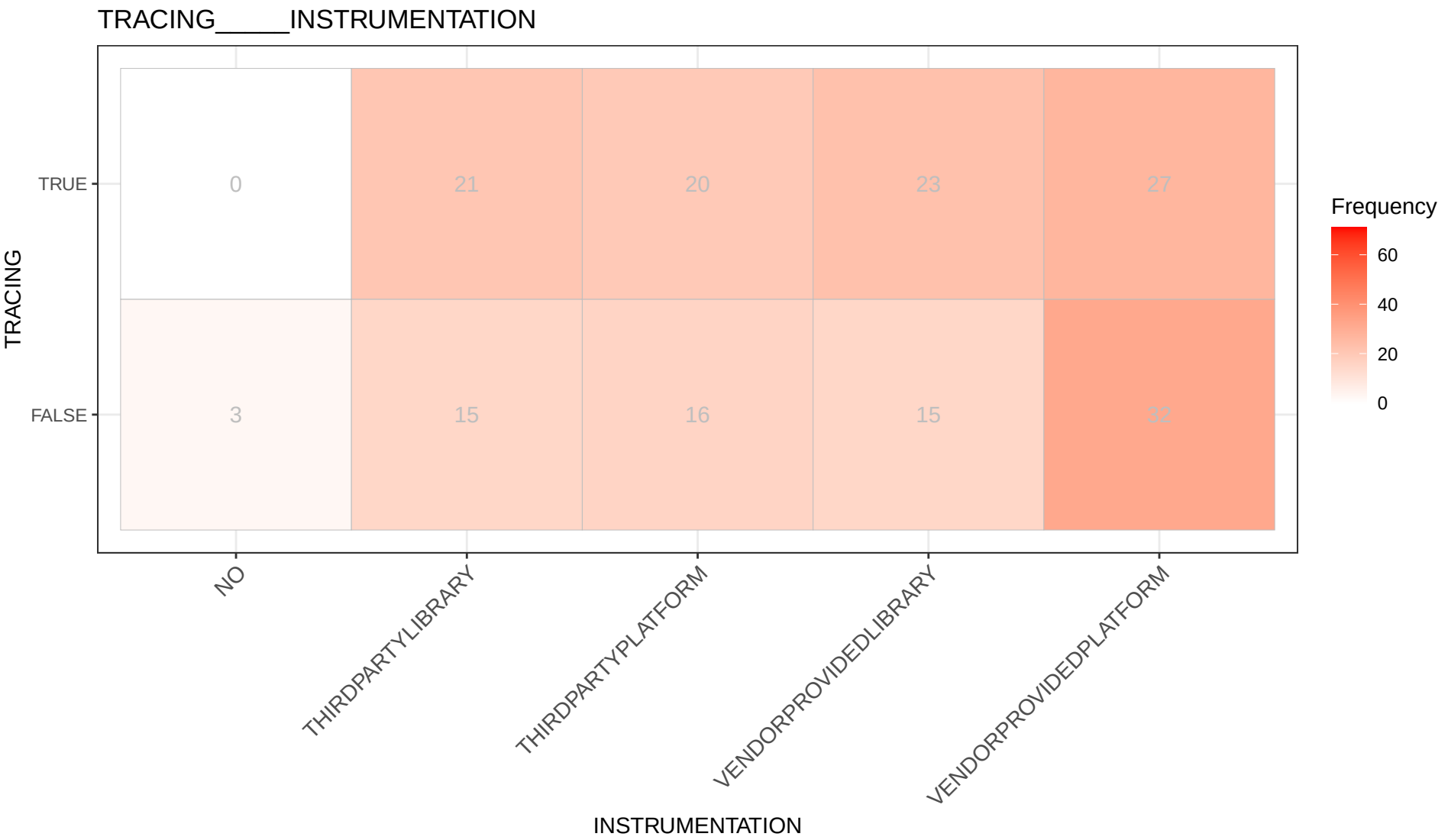
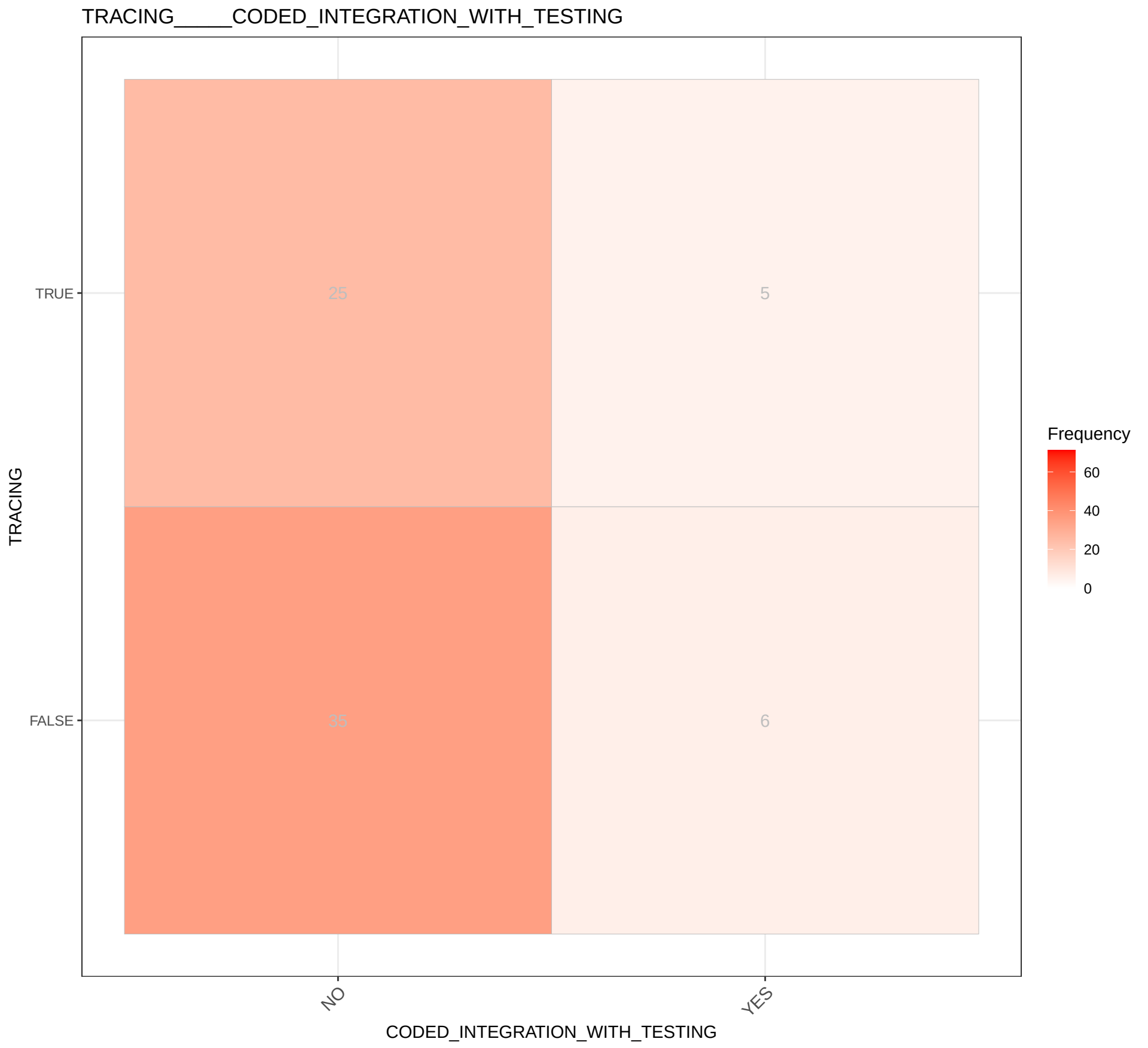

TRACING_____INSTRUMENTATION
TRACING
TRUE
FALSE
0
21
20
23
27
3
15
16
15
32
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


TRACING_____CODED_INTEGRATION_WITH_TESTING
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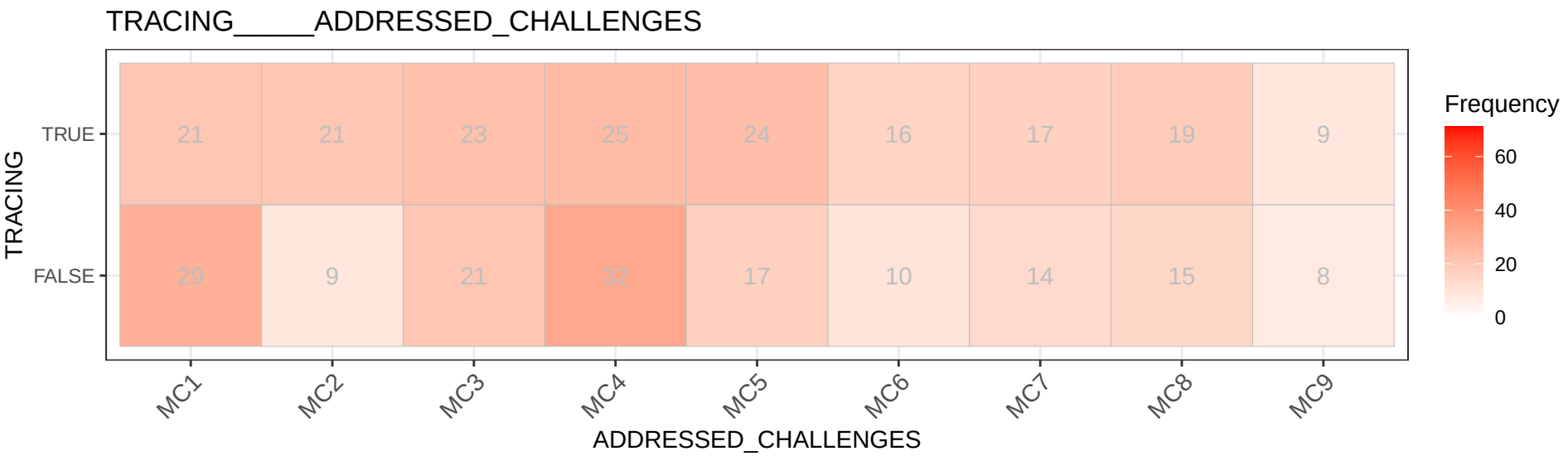
TRACING
NO
YES
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0


TRACING_____ADDRESSED_CHALLENGES
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FALSE
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21
23
25
24
16
17
19
9
29
9
21
32
17
10
14
15
8
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
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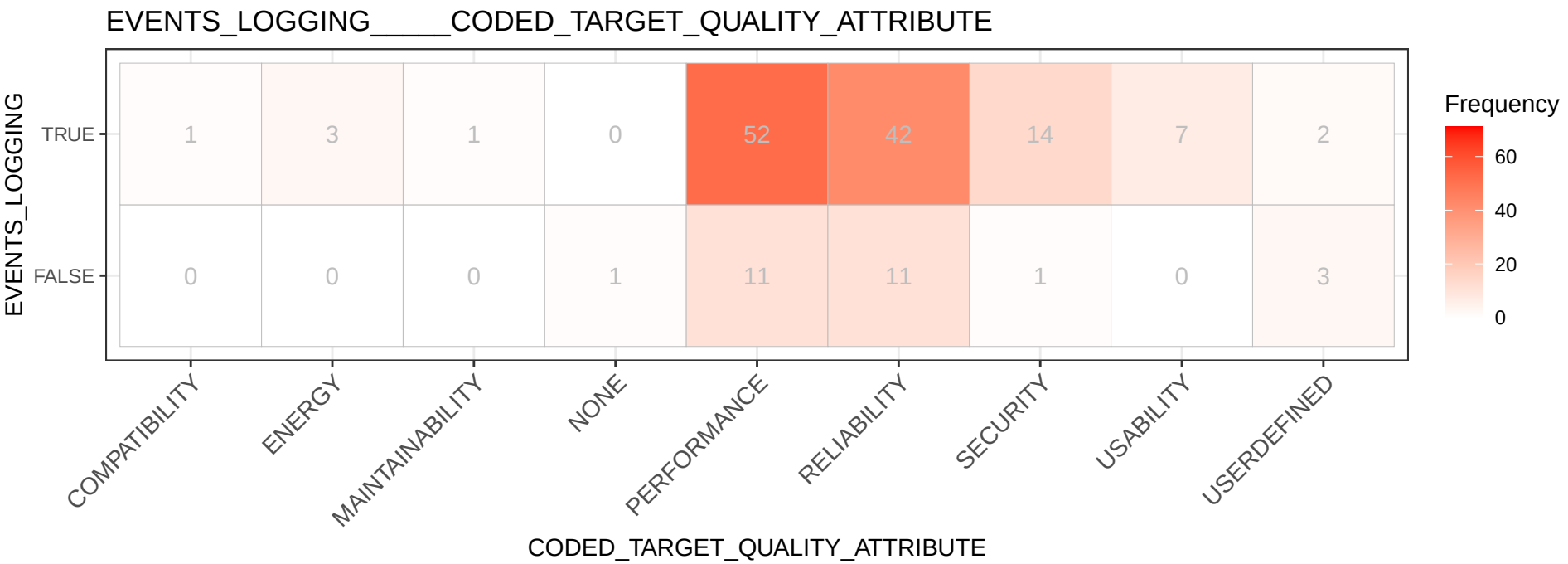
EVENTS_LOGGING_____CODED_TARGET_QUALITY_ATTRIBUTE
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3
1
0
52
42
14
7
2
0
0
0
1
11
11
1
0
3
COMPATIBILITY
ENERGY
MAINTAINABILITY
NONE
PERFORMANCE
RELIABILITY
SECURITY
USABILITY
USERDEFINED
CODED_TARGET_QUALITY_ATTRIBUTE
Frequency
60
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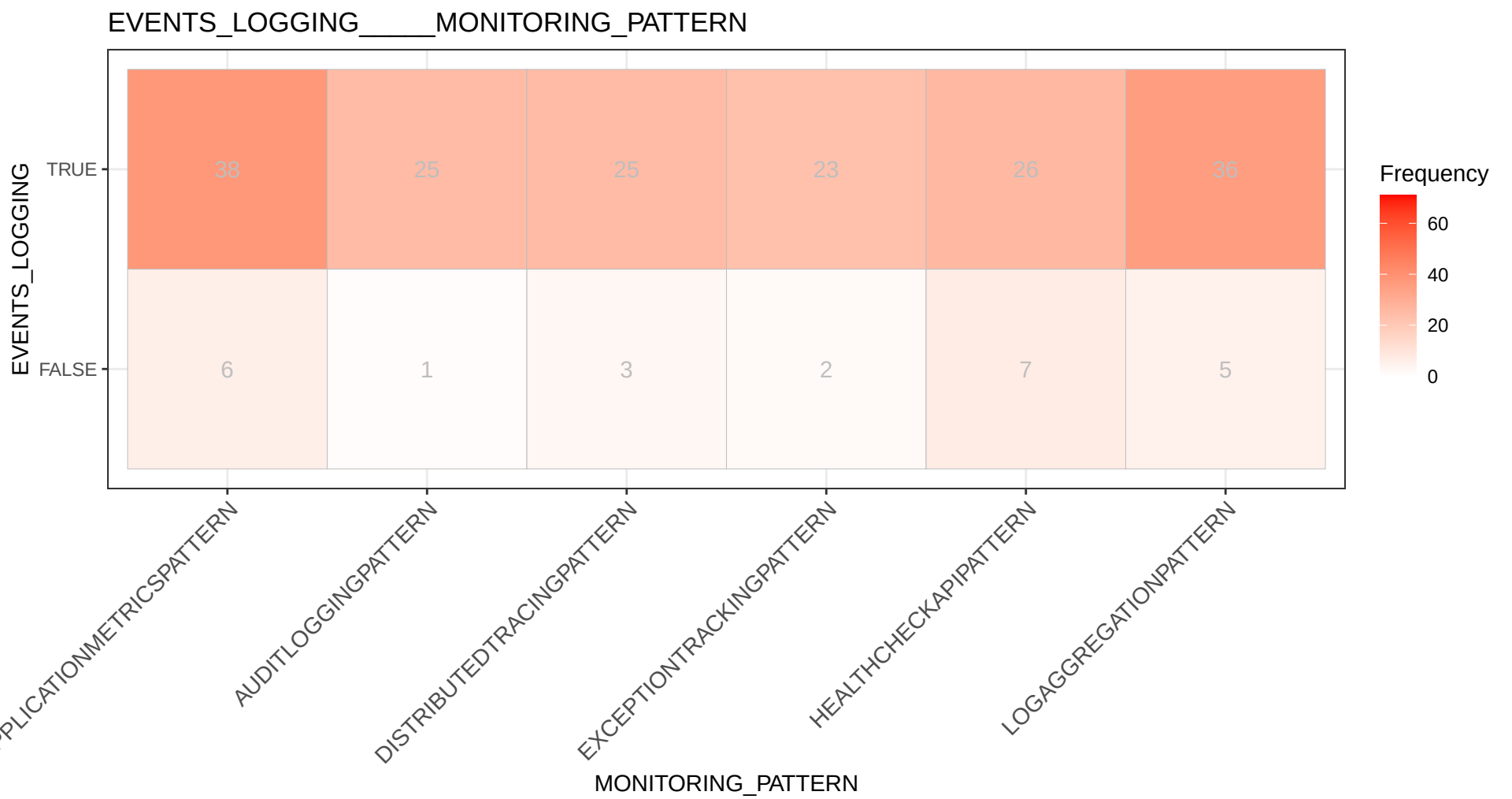
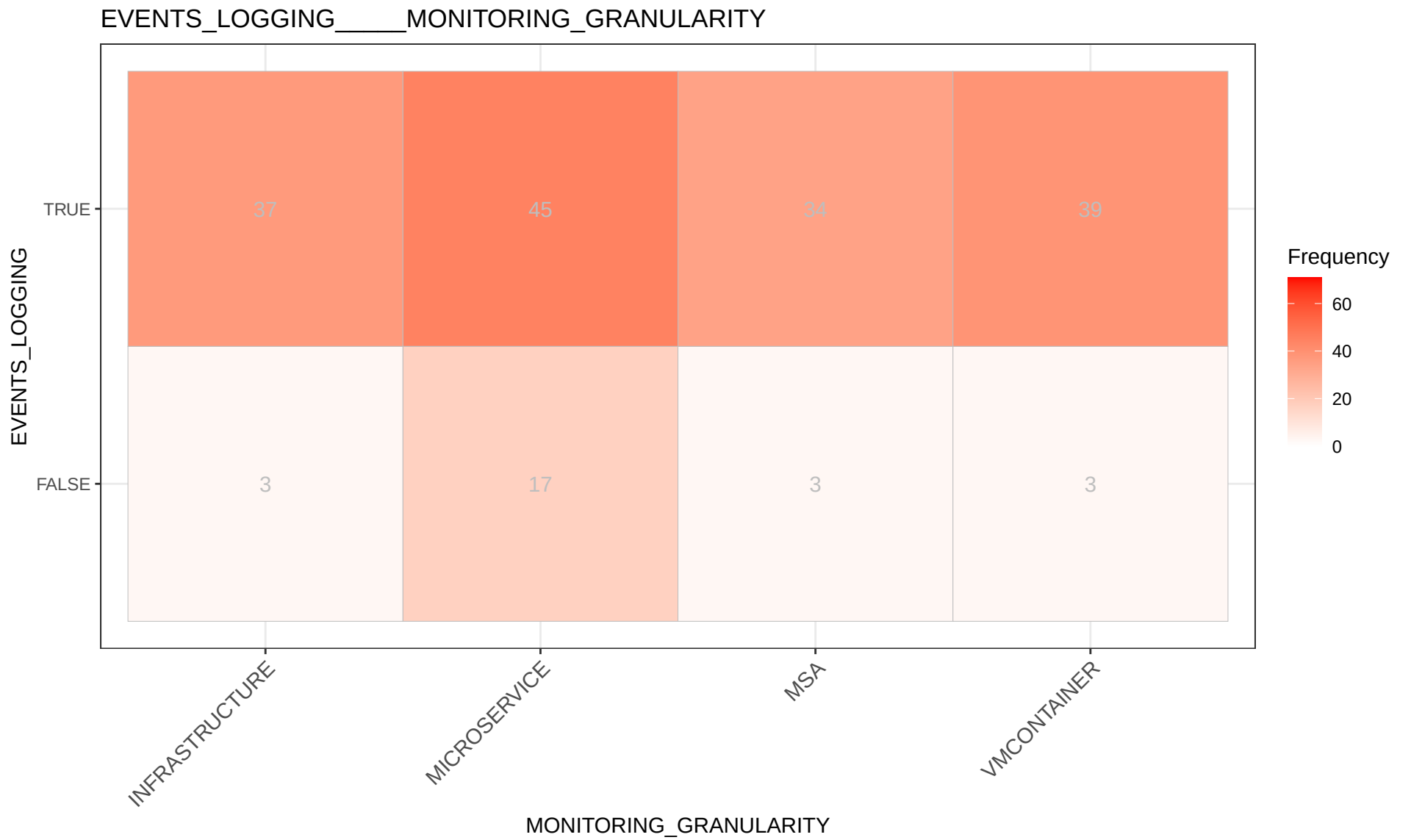

EVENTS_LOGGING_____MONITORING_PATTERN
EVENTS_LOGGING
TRUE
FALSE
38
25
25
23
26
36
6
1
3
2
7
5
Frequency
60
40
20
0
PLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN


EVENTS_LOGGING_____MONITORING_GRANULARITY
EVENTS_LOGGING
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FALSE
37
45
34
39
3
17
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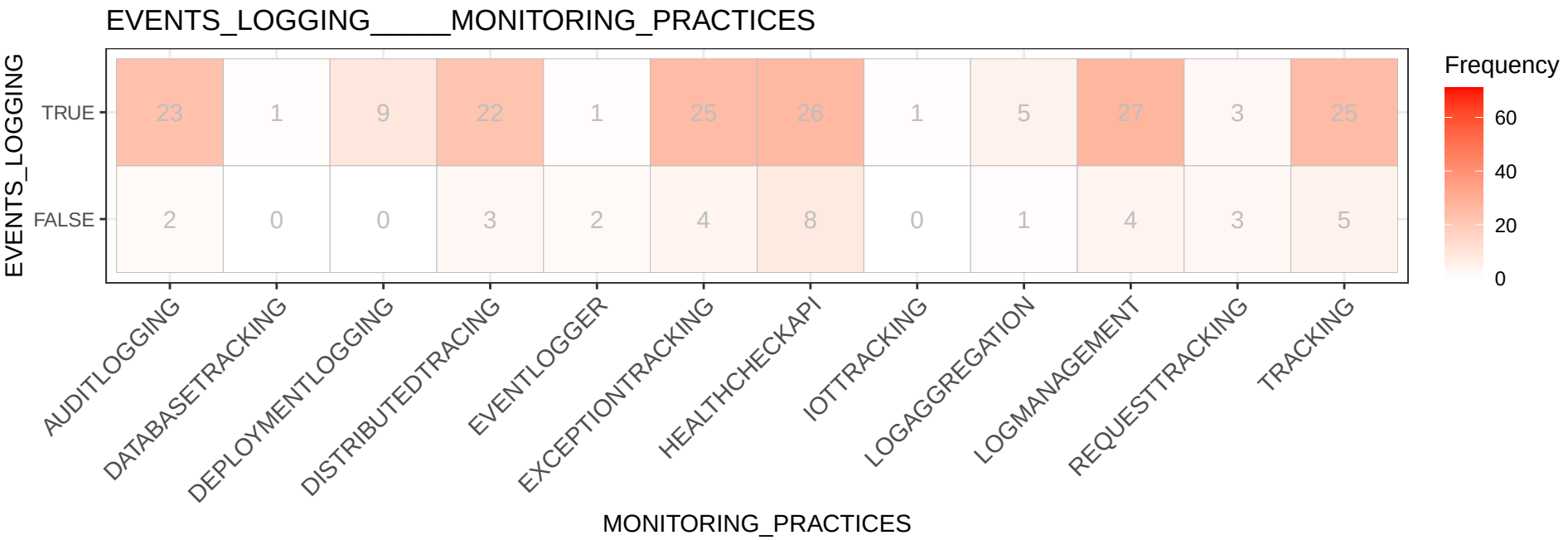
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


EVENTS_LOGGING_____MONITORING_PRACTICES
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TRUE
FALSE
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1
9
22
1
25
26
1
5
27
3
25
2
0
0
3
2
4
8
0
1
4
3
5
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
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20
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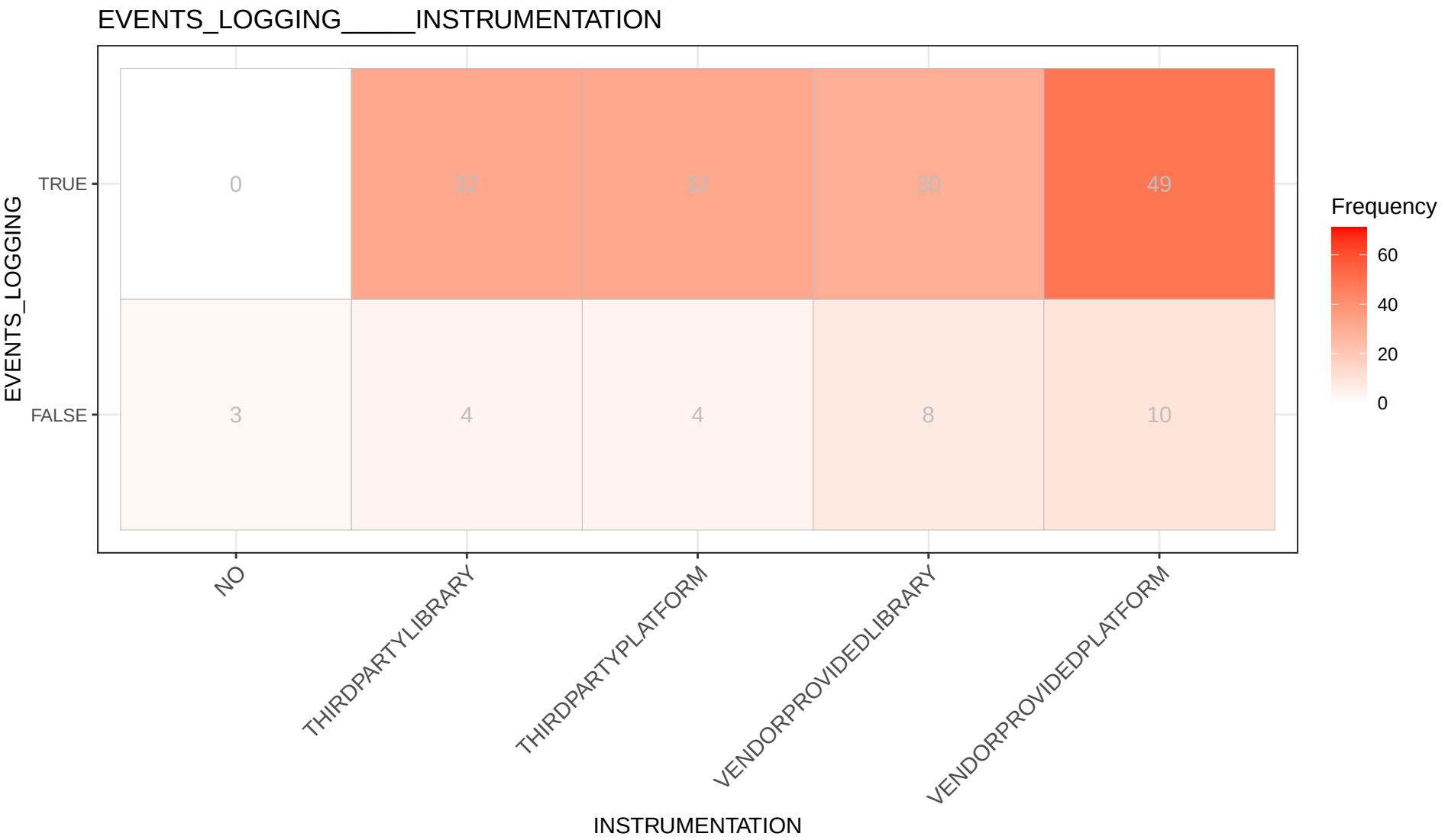
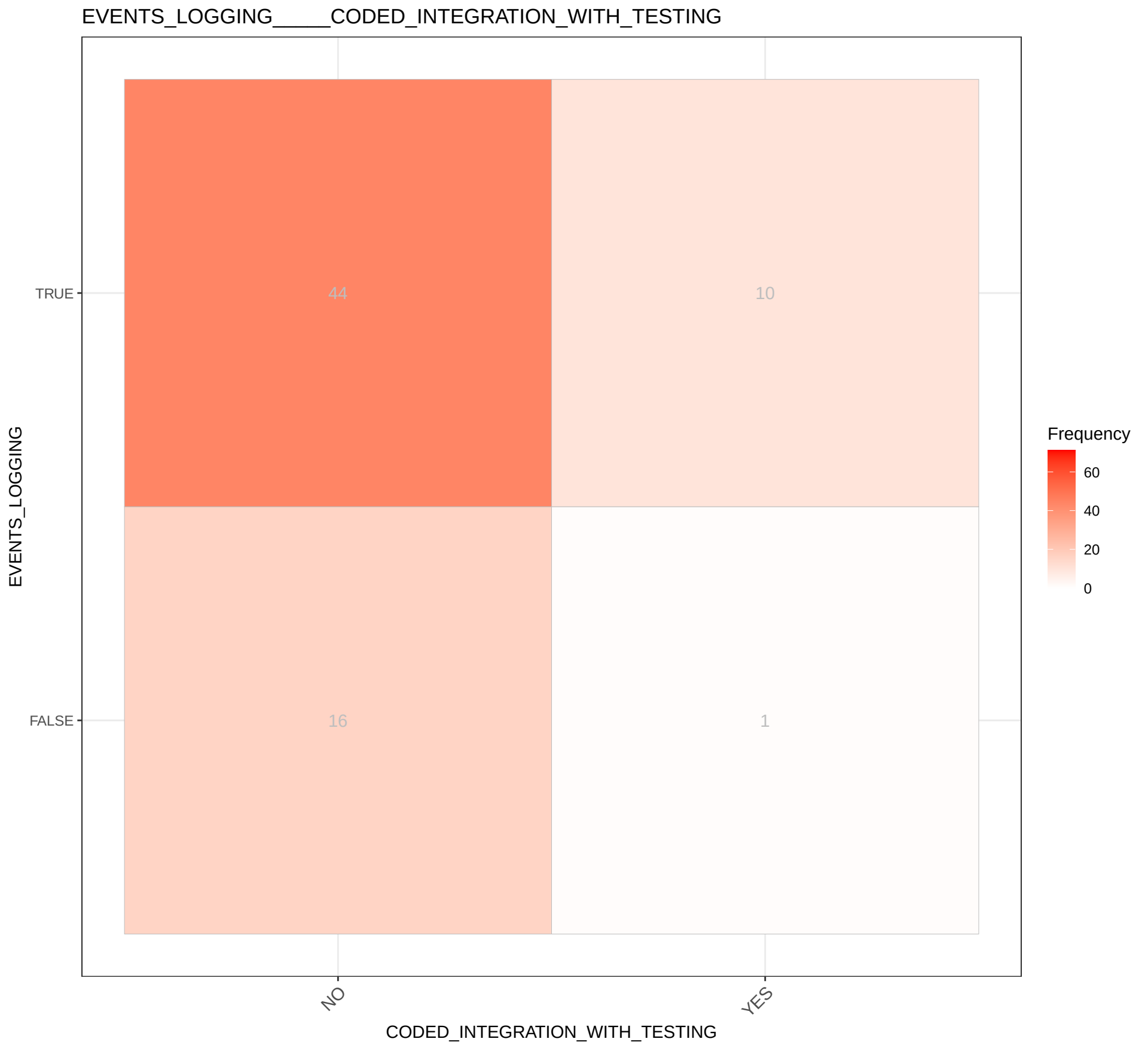

EVENTS_LOGGING_____INSTRUMENTATION
EVENTS_LOGGING
TRUE
FALSE
0
32
32
30
49
3
4
4
8
10
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
40
20
0


EVENTS_LOGGING_____CODED_INTEGRATION_WITH_TESTING
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16
1
EVENTS_LOGGING
NO
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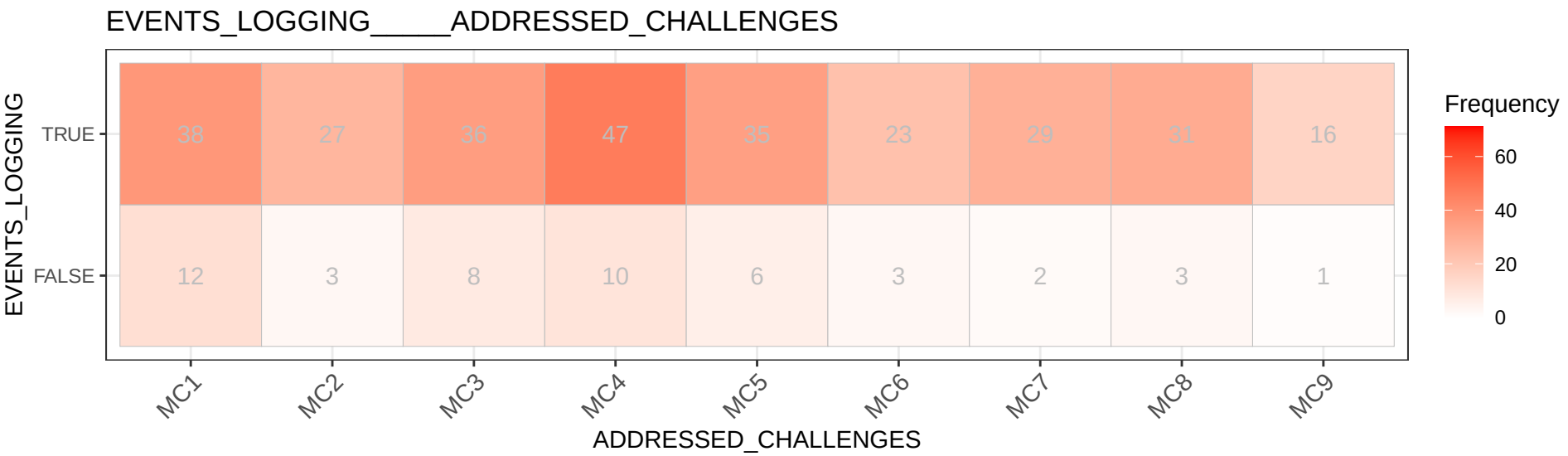
CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
0


EVENTS_LOGGING_____ADDRESSED_CHALLENGES
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TRUE
FALSE
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27
36
47
35
23
29
31
16
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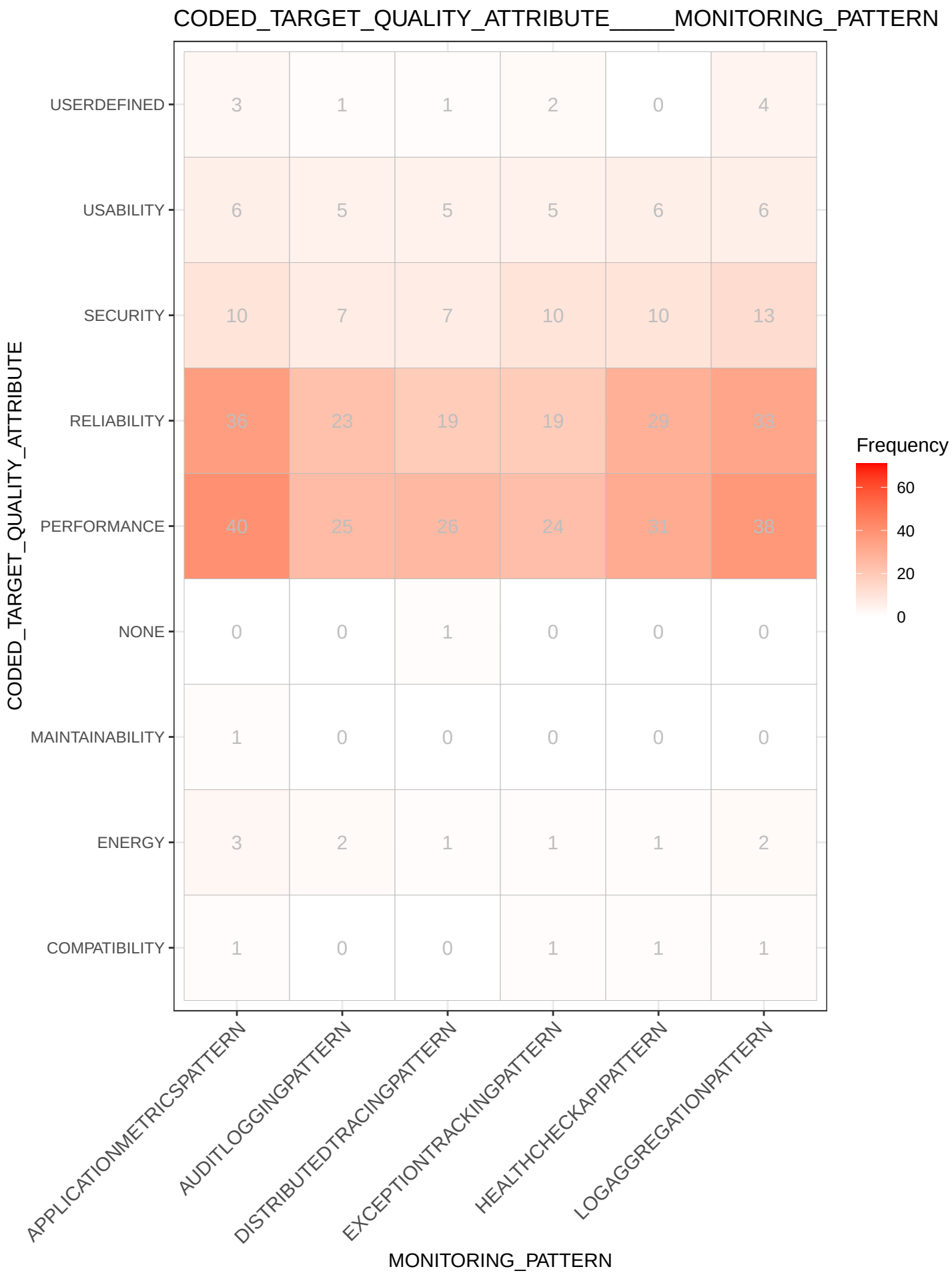
8
10
6
3
2
3
1
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0


CODED_TARGET_QUALITY_ATTRIBUTE_____MONITORING_PATTERN
CODED_TARGET_QUALITY_ATTRIBUTE
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
3 1 1 2 0 4
6 5 5 5 6 6
10 7 7 10 10 13
36 23 19 19 29 33
40 25 26 24 31 38
0 0 1 0 0 0
1 0 0 0 0 0
3 2 1 1 1 2
1 0 0 1 1 1
APPLICATIONMETRICSPATTERN
AUDITLOGGINGPATTERN
DISTRIBUTEDTRACINGPATTERN
EXCEPTIONTRACKINGPATTERN
HEALTHCHECKAPIPATTERN
LOGAGGREGATIONPATTERN
MONITORING_PATTERN
Frequency
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40
20
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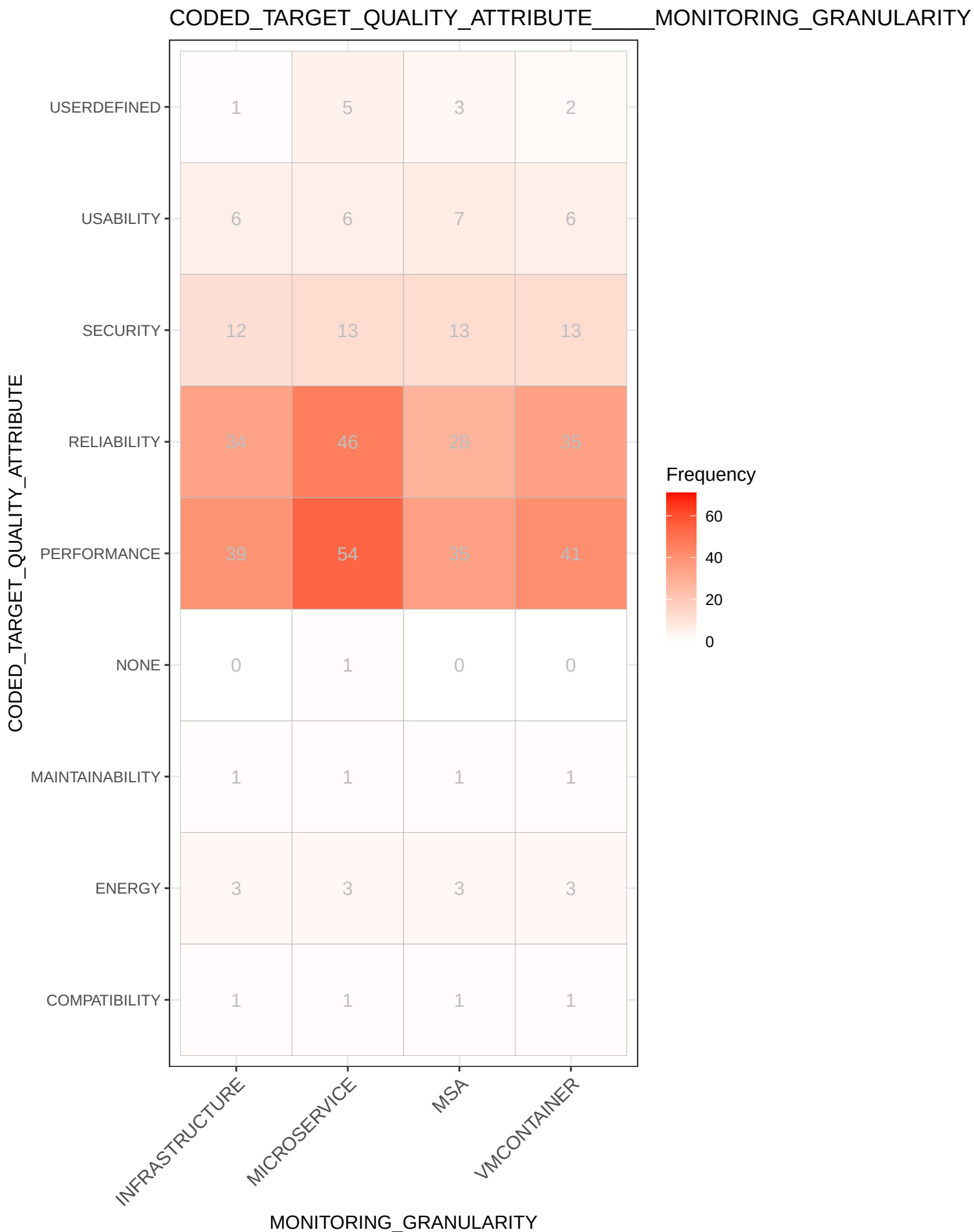
CODED_TARGET_QUALITY_ATTRIBUTE_____MONITORING_GRANULARITY
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
CODED_TARGET_QUALITY_ATTRIBUTE
1 5 3 2
6 6 7 6
12 13 13 13
34 46 28 35
39 54 35 41
0 1 0 0
1 1 1 1
3 3 3 3
1 1 1 1
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
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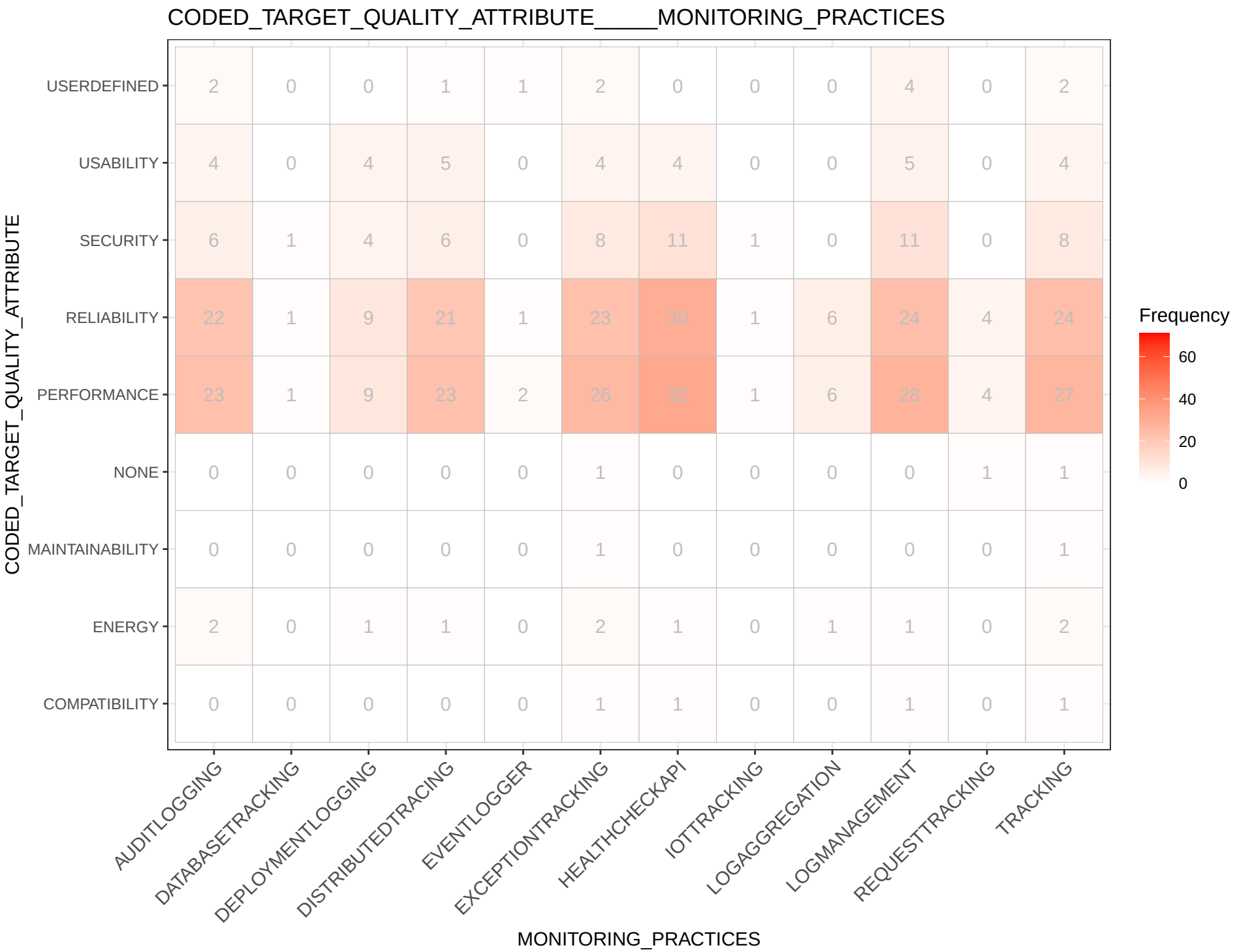
CODED_TARGET_QUALITY_ATTRIBUTE_____MONITORING_PRACTICES
CODED_TARGET_QUALITY_ATTRIBUTE
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
2 0 0 1 1 2 0 0 0 4 0 2
4 0 4 5 0 4 4 0 0 5 0 4
6 1 4 6 0 8 11 1 0 11 0 8
22 1 9 21 1 23 30 1 6 24 4 24
23 1 9 23 2 26 32 1 6 28 4 27
0 0 0 0 0 1 0 0 0 0 1 1
0 0 0 0 0 1 0 0 0 0 0 1
2 0 1 1 0 2 1 0 1 1 0 2
0 0 0 0 0 1 1 0 0 1 0 1
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
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20
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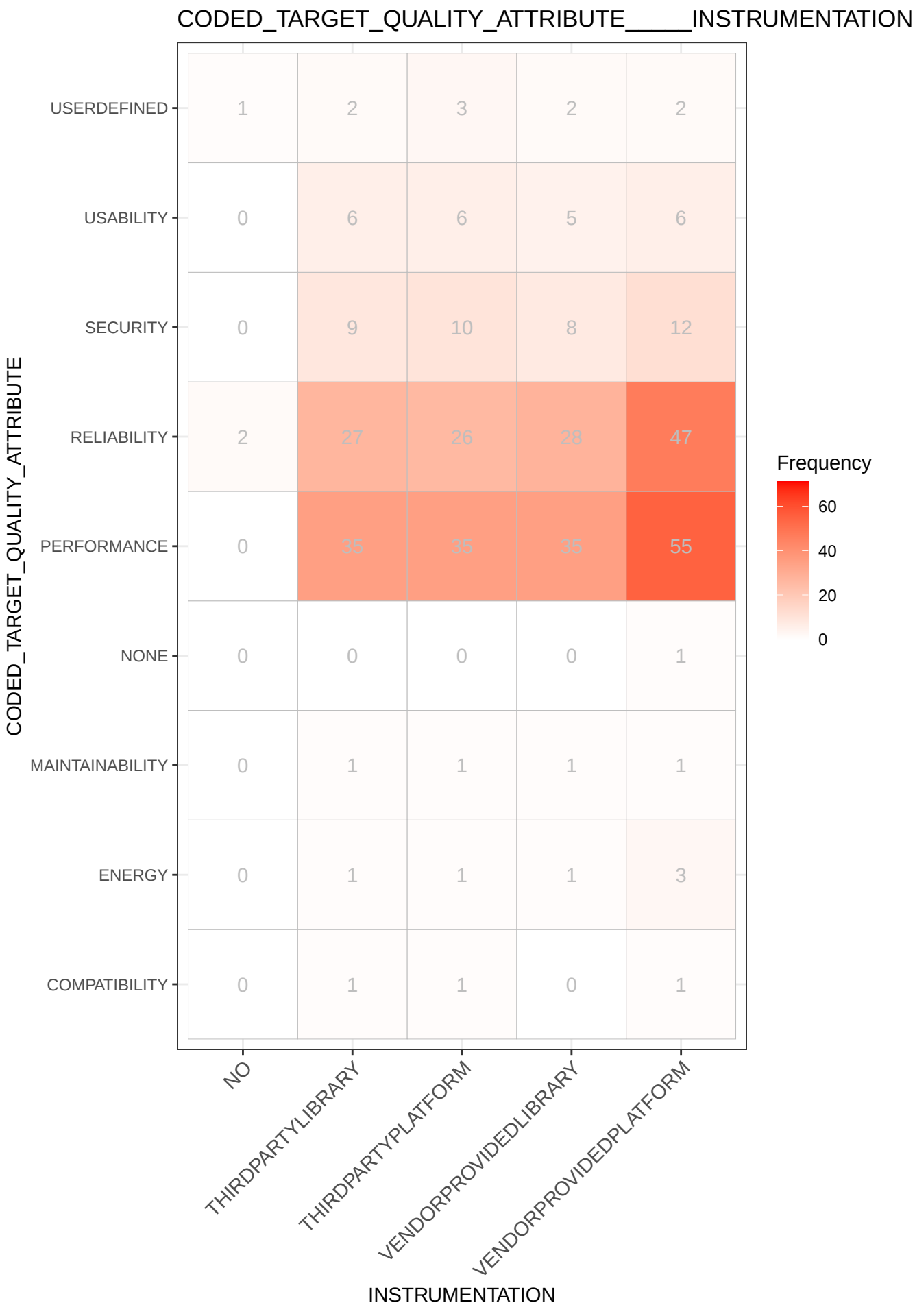
CODED_TARGET_QUALITY_ATTRIBUTE_____INSTRUMENTATION
CODED_TARGET_QUALITY_ATTRIBUTE
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
1 2 3 2 2
0 6 6 5 6
0 9 10 8 12
2 27 26 28 47
0 35 35 35 55
0 0 0 0 1
0 1 1 1 1
0 1 1 1 3
0 1 1 0 1
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
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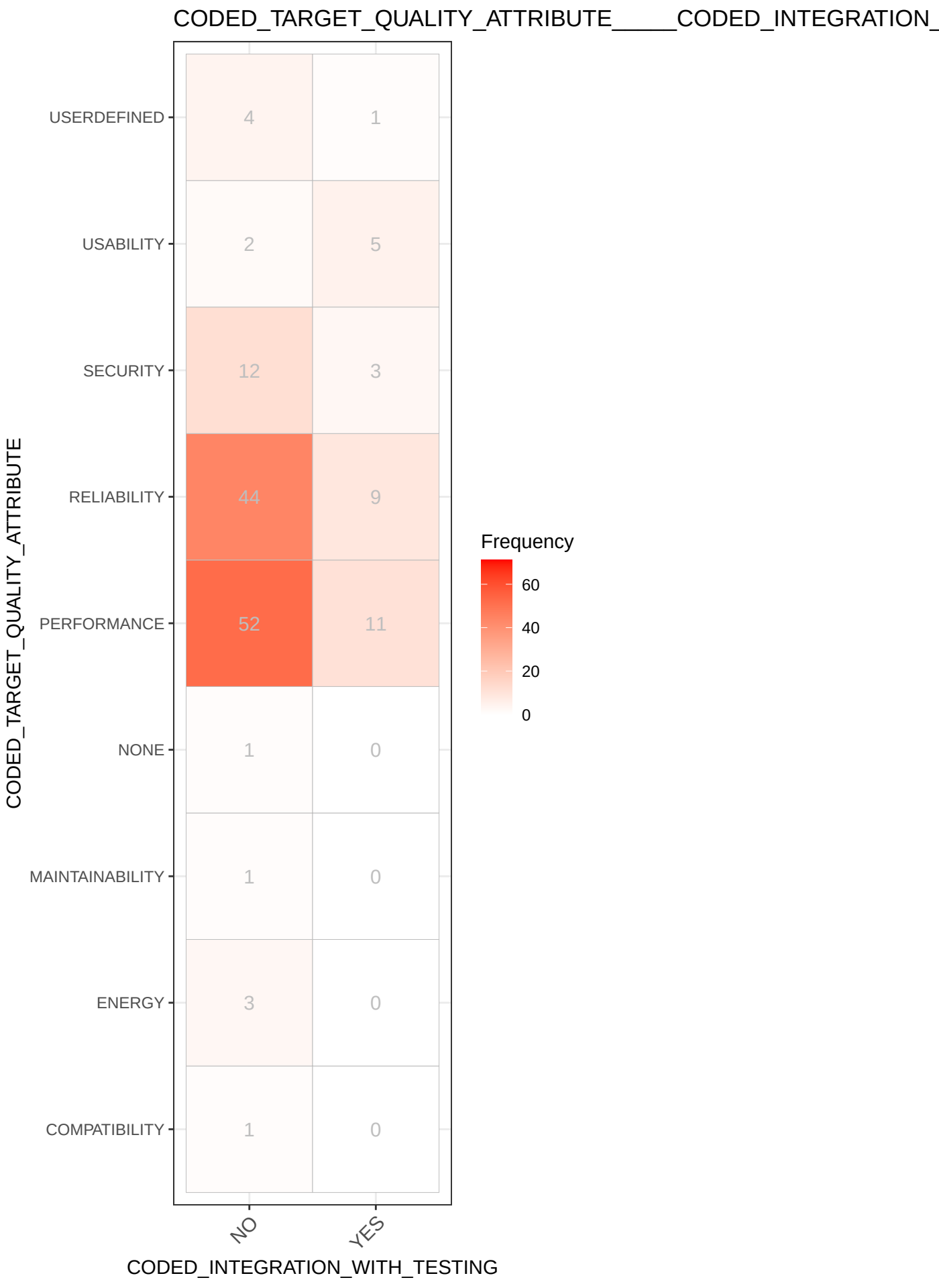
20
0


CODED_TARGET_QUALITY_ATTRIBUTE_____CODED_INTEGRATION_
CODED_TARGET_QUALITY_ATTRIBUTE
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
4
1
2
5
12
3
44
9
52
11
1
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3
0
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NO
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CODED_INTEGRATION_WITH_TESTING
Frequency
60
40
20
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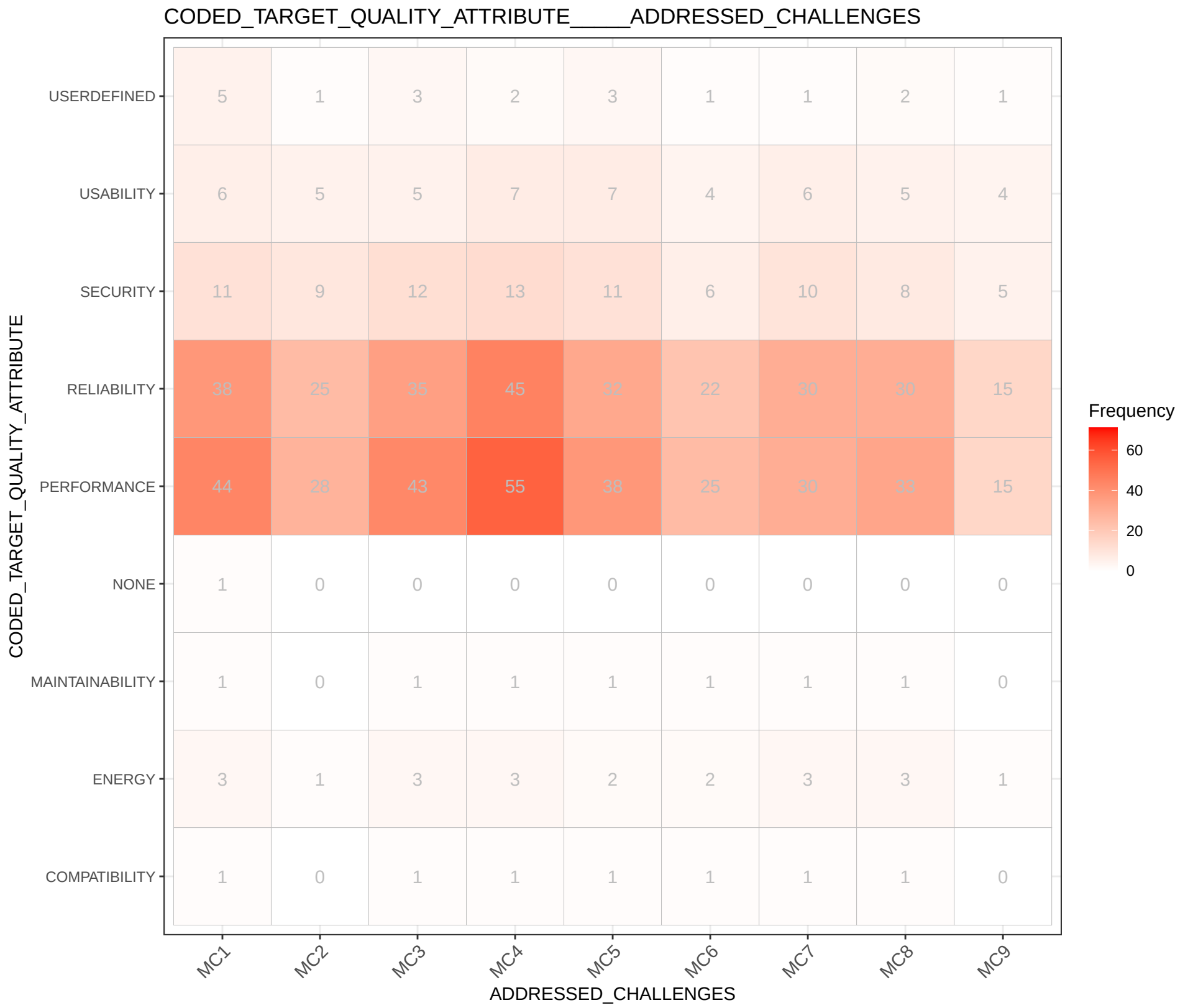
CODED_TARGET_QUALITY_ATTRIBUTE_____ADDRESSED_CHALLENGES
USERDEFINED
USABILITY
SECURITY
RELIABILITY
PERFORMANCE
NONE
MAINTAINABILITY
ENERGY
COMPATIBILITY
5 1 3 2 3 1 1 2 1
6 5 5 7 7 4 6 5 4
11 9 12 13 11 6 10 8 5
38 25 35 45 32 22 30 30 15
44 28 43 55 38 25 30 33 15
1 0 0 0 0 0 0 0 0
1 0 1 1 1 1 1 1 0
3 1 3 3 2 2 3 3 1
1 0 1 1 1 1 1 1 0
CODED_TARGET_QUALITY_ATTRIBUTE
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
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20
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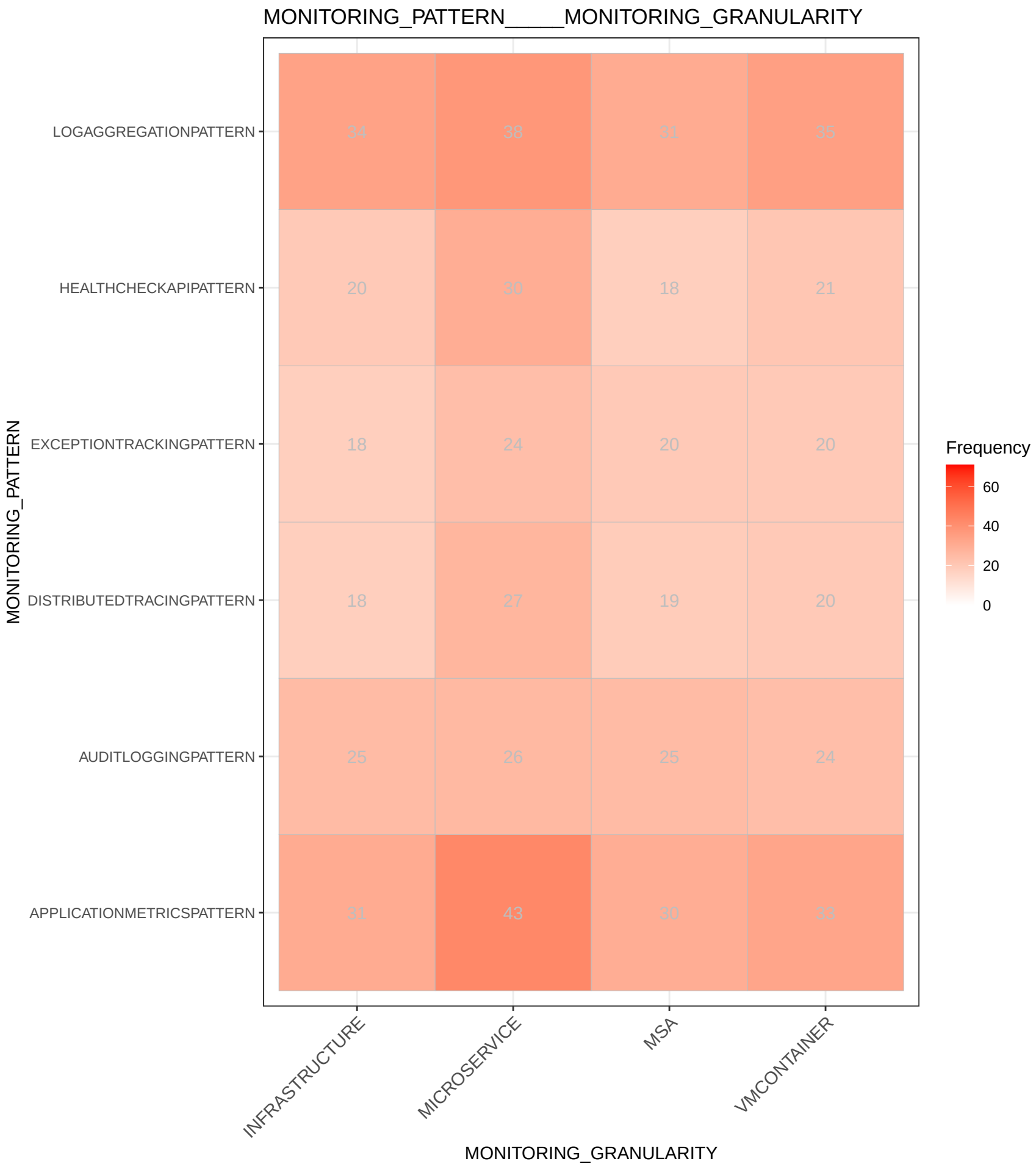
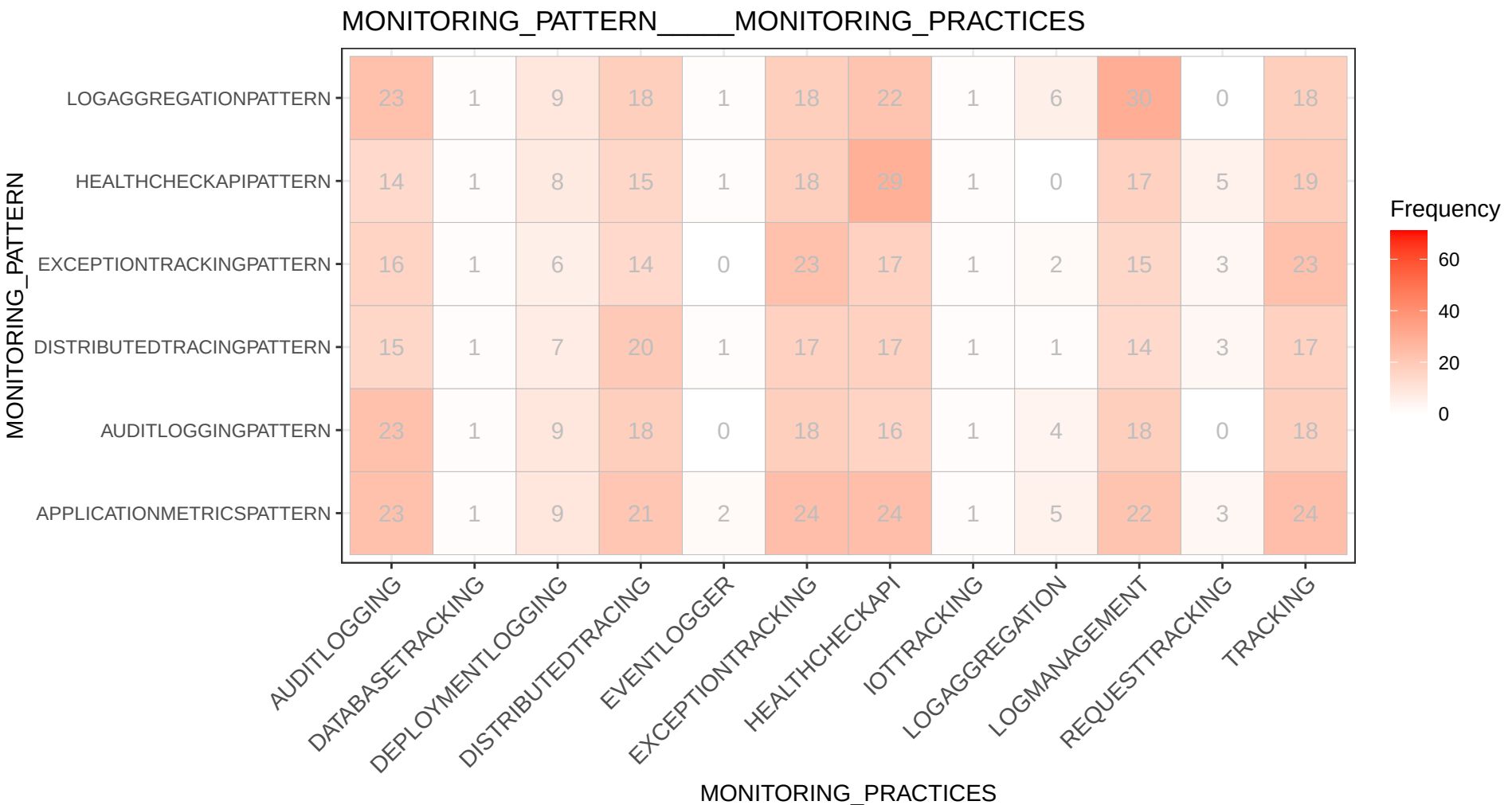

MONITORING_PATTERN_____MONITORING_GRANULARITY
LOGAGGREGATIONPATTERN
HEALTHCHECKAPIPATTERN
EXCEPTIONTRACKINGPATTERN
DISTRIBUTEDTRACINGPATTERN
AUDITLOGGINGPATTERN
APPLICATIONMETRICSPATTERN
MONITORING_PATTERN
34
38
31
35
20
30
18
21
18
24
20
20
18
27
19
20
25
26
25
24
31
43
30
33
INFRASTRUCTURE
MICROSERVICE
MSA
VMCONTAINER
MONITORING_GRANULARITY
Frequency
60
40
20
0


MONITORING_PATTERN_____MONITORING_PRACTICES
MONITORING_PATTERN
LOGAGGREGATIONPATTERN
HEALTHCHECKAPIPATTERN
EXCEPTIONTRACKINGPATTERN
DISTRIBUTEDTRACINGPATTERN
AUDITLOGGINGPATTERN
APPLICATIONMETRICSPATTERN
23 1 9 18 1 18 22 1 6 30 0 18
14 1 8 15 1 18 29 1 0 17 5 19
16 1 6 14 0 23 17 1 2 15 3 23
15 1 7 20 1 17 17 1 1 14 3 17
23 1 9 18 0 18 16 1 4 18 0 18
23 1 9 21 2 24 24 1 5 22 3 24
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
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20
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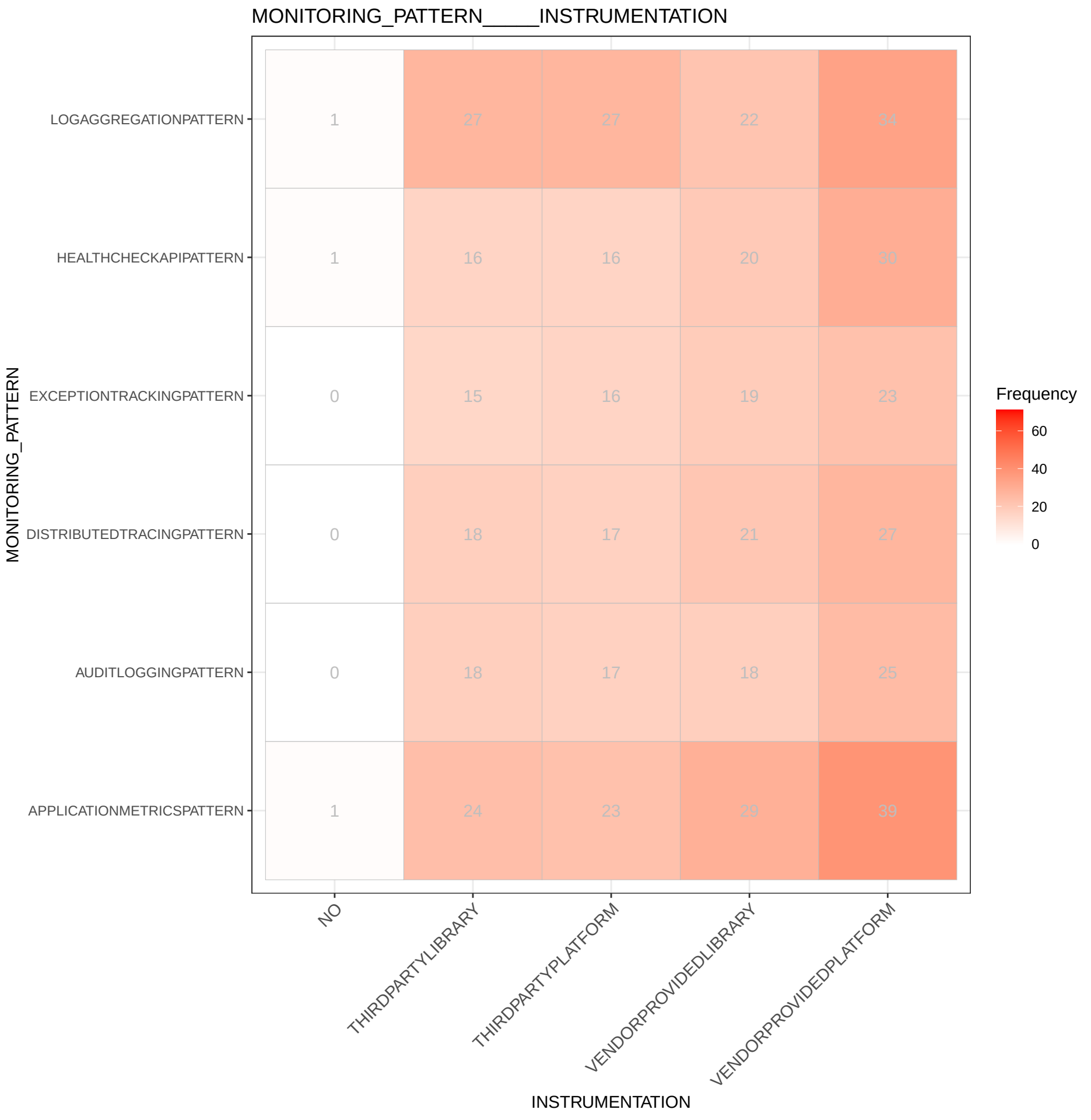
MONITORING_PATTERN_____INSTRUMENTATION
LOGAGGREGATIONPATTERN
HEALTHCHECKAPIPATTERN
EXCEPTIONTRACKINGPATTERN
DISTRIBUTEDTRACINGPATTERN
AUDITLOGGINGPATTERN
APPLICATIONMETRICSPATTERN
MONITORING_PATTERN
1 27 27 22 34
1 16 16 20 30
0 15 16 19 23
0 18 17 21 27
0 18 17 18 25
1 24 23 29 39
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
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20
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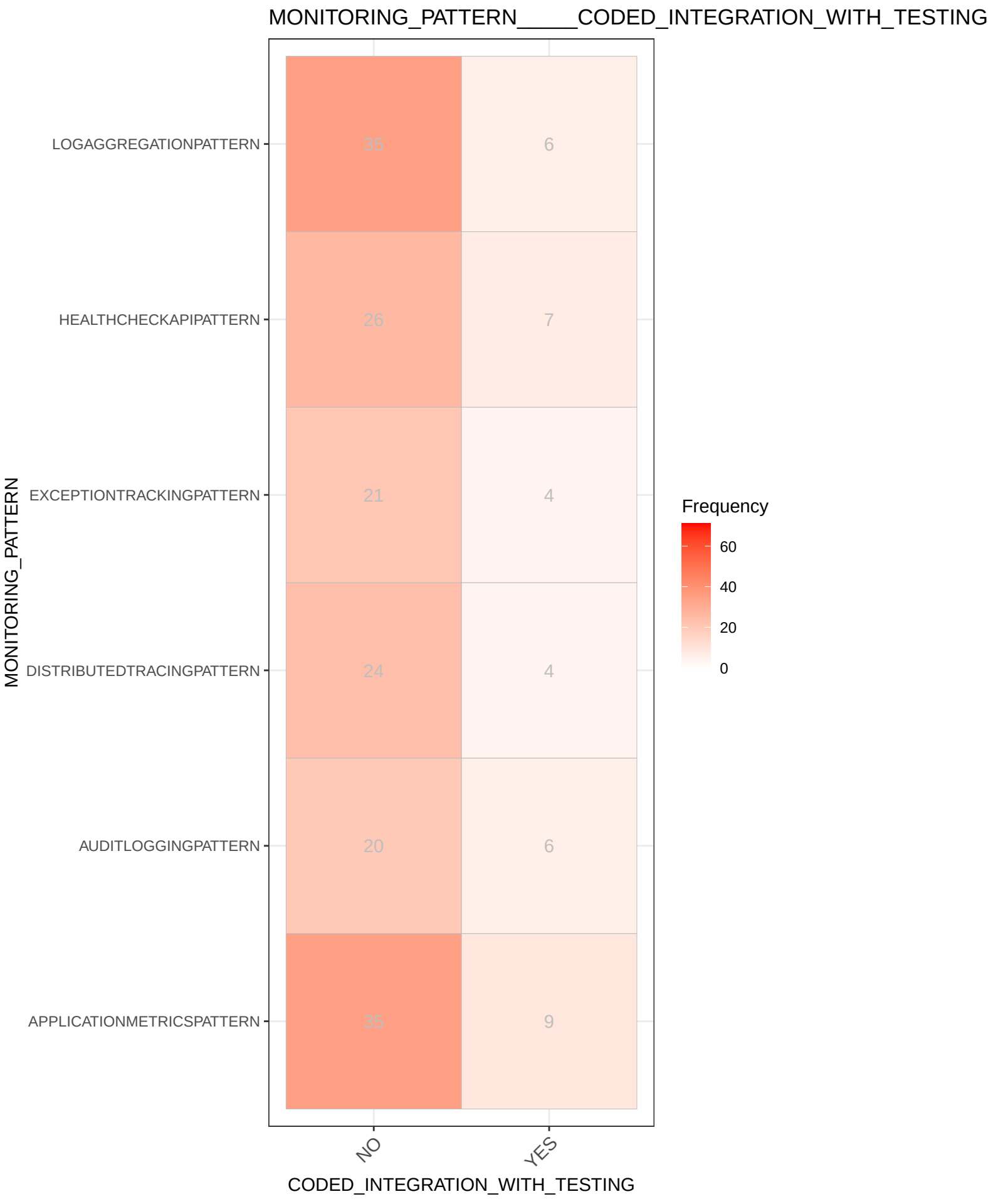
MONITORING_PATTERN_____CODED_INTEGRATION_WITH_TESTING
LOGAGGREGATIONPATTERN
HEALTHCHECKAPIPATTERN
EXCEPTIONTRACKINGPATTERN
DISTRIBUTEDTRACINGPATTERN
AUDITLOGGINGPATTERN
APPLICATIONMETRICSPATTERN
MONITORING_PATTERN
35
6
26
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21
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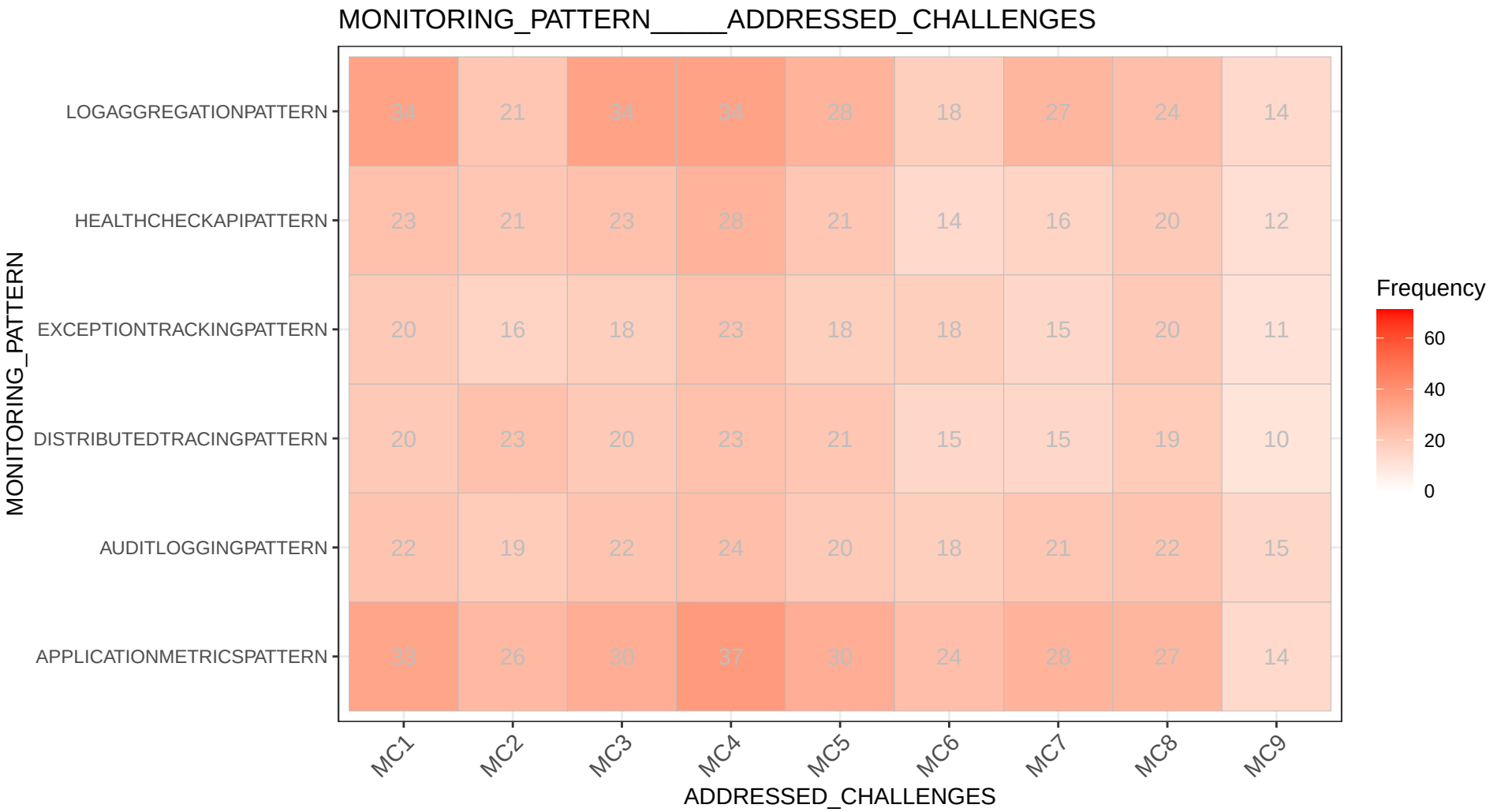
24
4
20
6
35
9
Frequency
60
40
20
0
NO
YES
CODED_INTEGRATION_WITH_TESTING


MONITORING_PATTERN_____ADDRESSED_CHALLENGES
LOGAGGREGATIONPATTERN
HEALTHCHECKAPIPATTERN
EXCEPTIONTRACKINGPATTERN
DISTRIBUTEDTRACINGPATTERN
AUDITLOGGINGPATTERN
APPLICATIONMETRICSPATTERN
MONITORING_PATTERN
34 21 34 34 28 18 27 24 14
23 21 23 28 21 14 16 20 12
20 16 18 23 18 18 15 20 11
20 23 20 23 21 15 15 19 10
22 19 22 24 20 18 21 22 15
33 26 30 37 30 24 28 27 14
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
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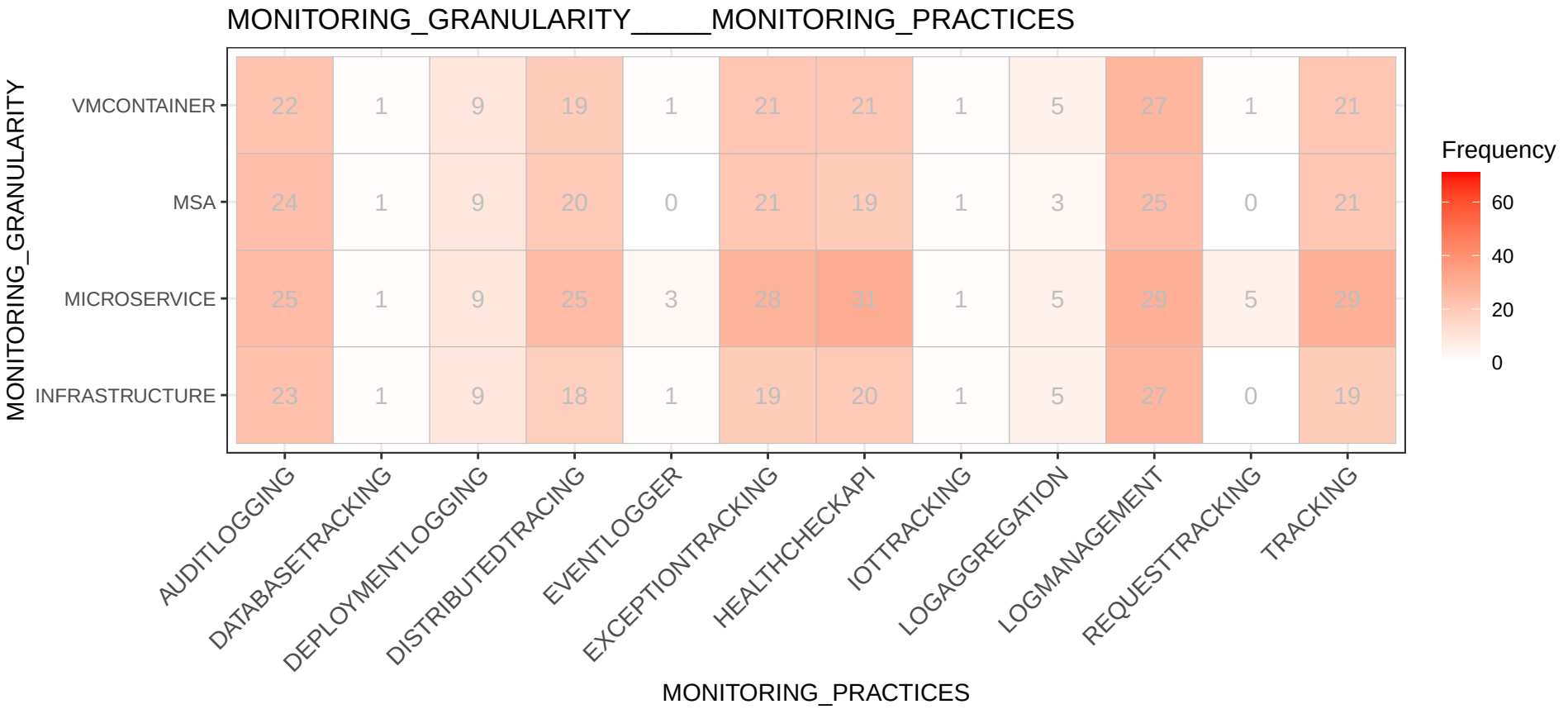
MONITORING_GRANULARITY_____MONITORING_PRACTICES
MONITORING_GRANULARITY
VMCONTAINER
MSA
MICROSERVICE
INFRASTRUCTURE
22 1 9 19 1 21 21 1 5 27 1 21
24 1 9 20 0 21 19 1 3 25 0 21
25 1 9 25 3 28 31 1 5 29 5 29
23 1 9 18 1 19 20 1 5 27 0 19
AUDITLOGGING
DATABASETRACKING
DEPLOYMENTLOGGING
DISTRIBUTEDTRACING
EVENTLOGGER
EXCEPTIONTRACKING
HEALTHCHECKAPI
IOTTRACKING
LOGAGGREGATION
LOGMANAGEMENT
REQUESTTRACKING
TRACKING
MONITORING_PRACTICES
Frequency
60
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20
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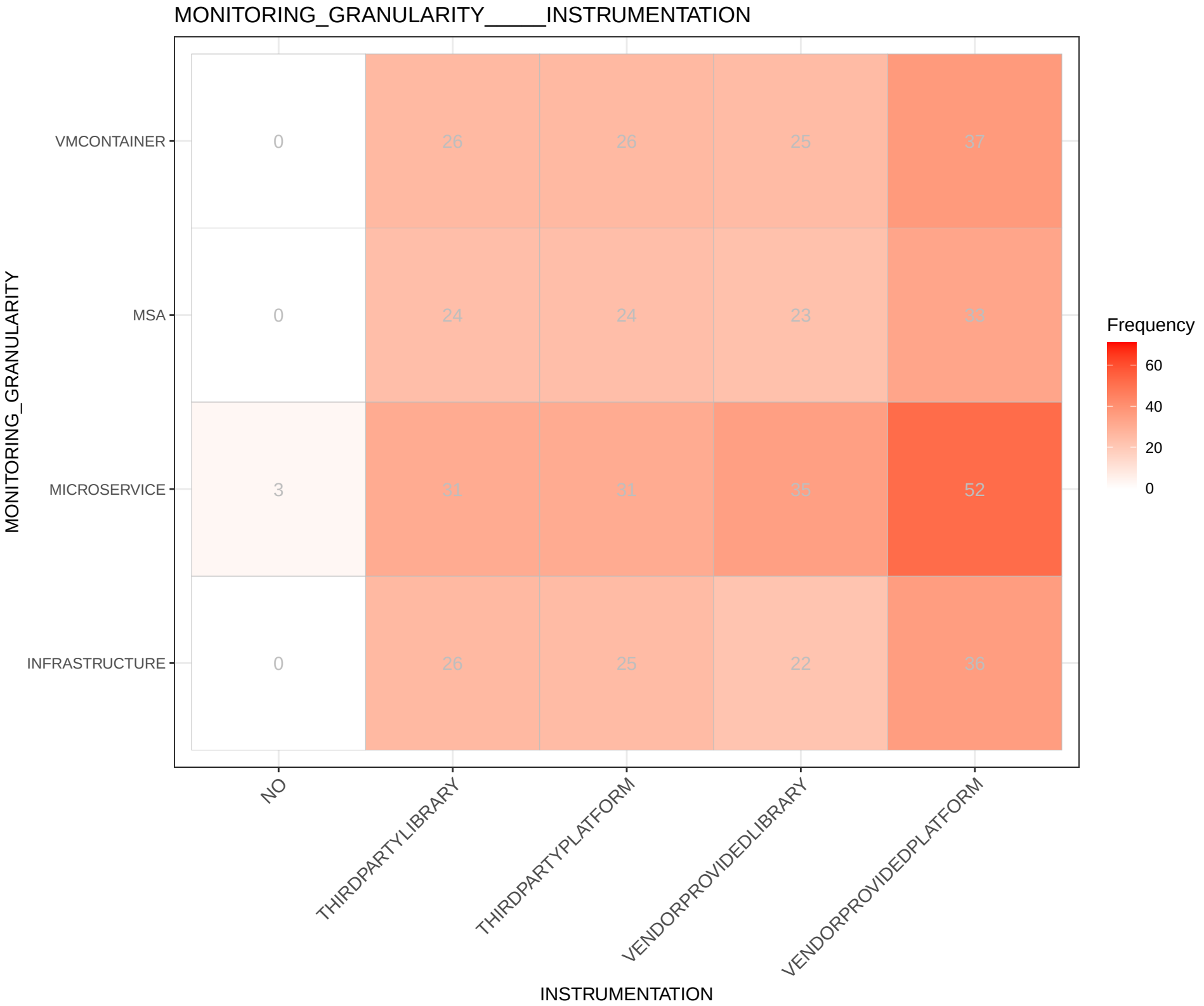
MONITORING_GRANULARITY_____INSTRUMENTATION
MONITORING_GRANULARITY
VMCONTAINER
MSA
MICROSERVICE
INFRASTRUCTURE
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26
26
25
37
0
24
24
23
33
3
31
31
35
52
0
26
25
22
36
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
VENDORPROVIDEDPLATFORM
INSTRUMENTATION
Frequency
60
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20
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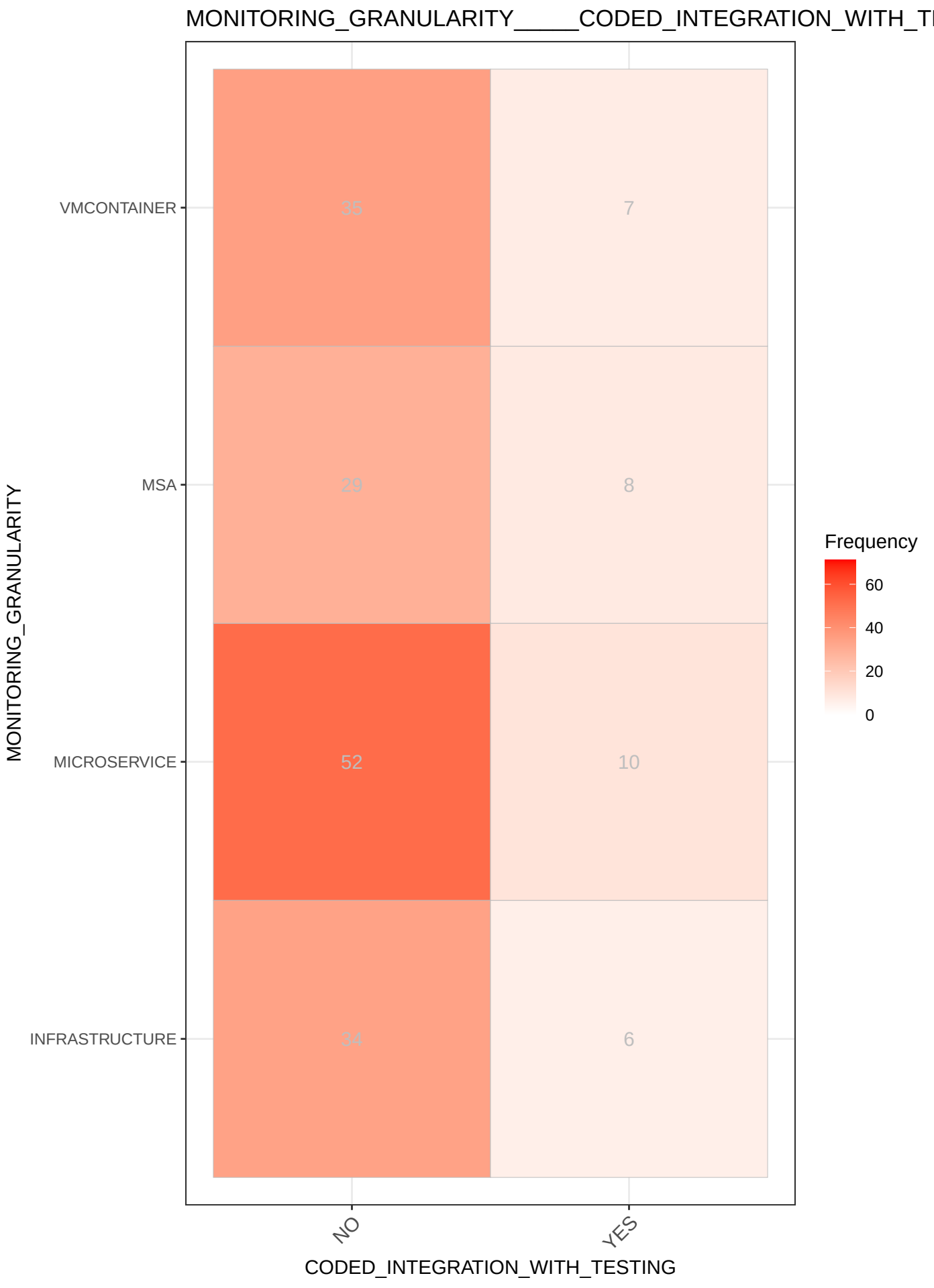
MONITORING_GRANULARITY_____CODED_INTEGRATION_WITH_TESTING
VMCONTAINER
MSA
MICROSERVICE
INFRASTRUCTURE
MONITORING_GRANULARITY
35
7
29
8
52
10
34
6
Frequency
60
40
20
0
NO
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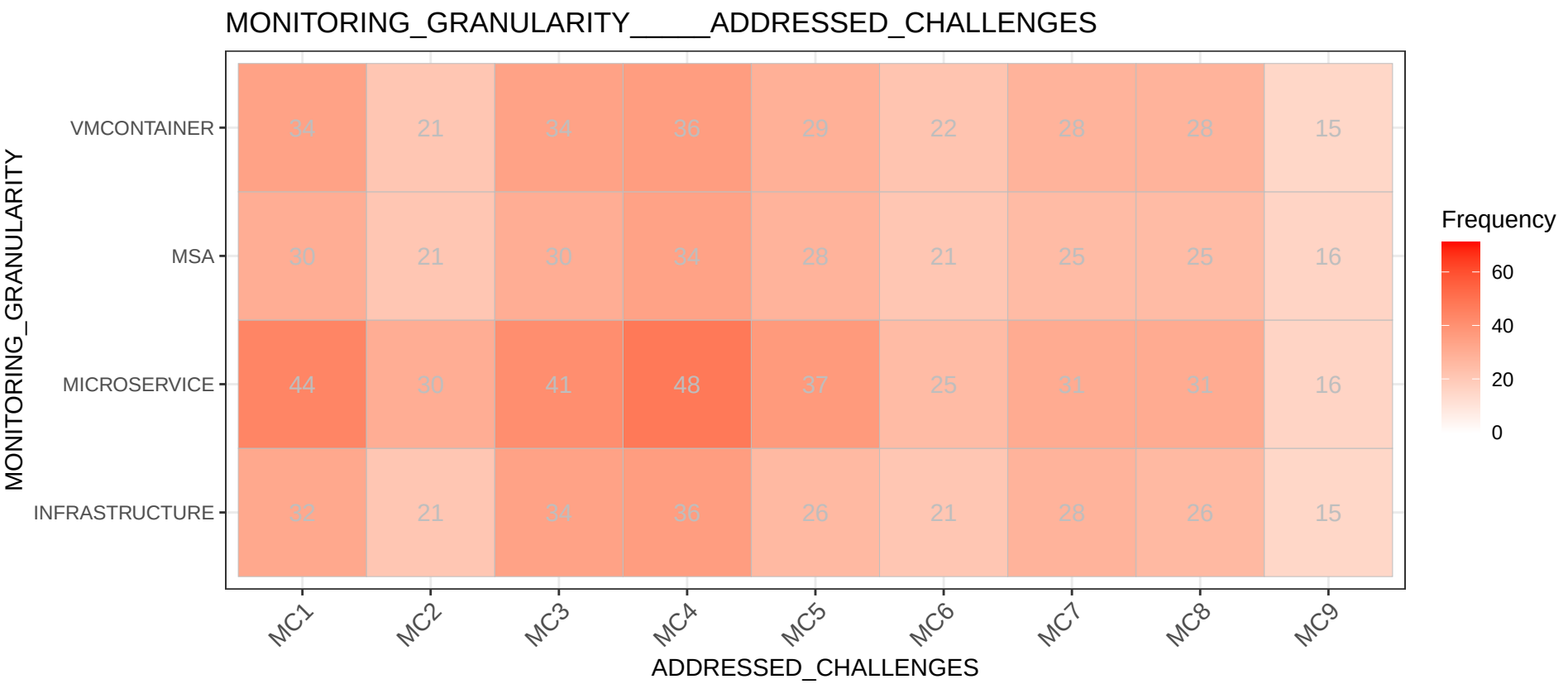
CODED_INTEGRATION_WITH_TESTING


MONITORING_GRANULARITY_____ADDRESSED_CHALLENGES
MONITORING_GRANULARITY
VMCONTAINER
MSA
MICROSERVICE
INFRASTRUCTURE
34 21 34 36 29 22 28 28 15
30 21 30 34 28 21 25 25 16
44 30 41 48 37 25 31 31 16
32 21 34 36 26 21 28 26 15
MC1
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MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
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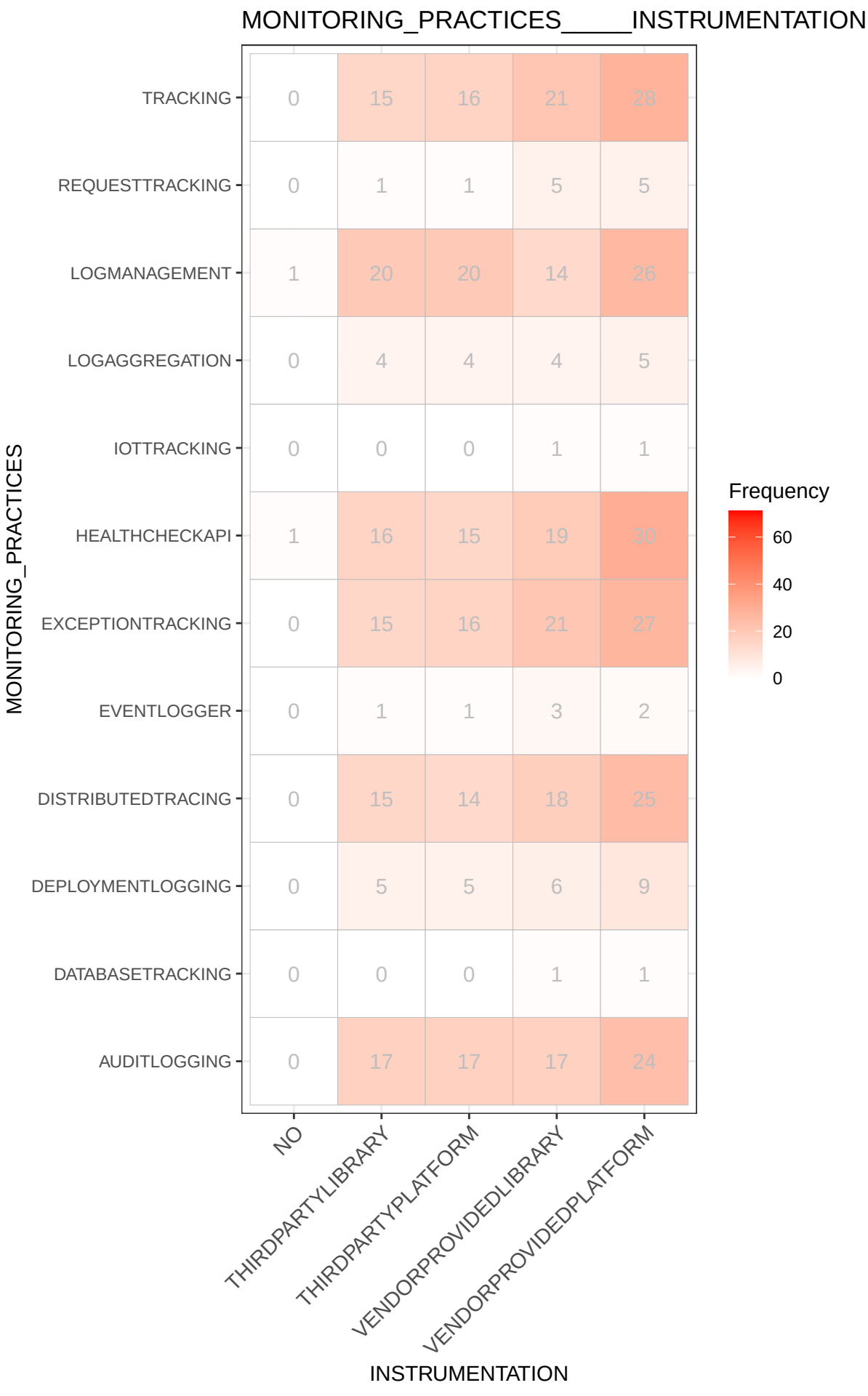
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REQUESTTRACKING
LOGMANAGEMENT
LOGAGGREGATION
IOTTRACKING
HEALTHCHECKAPI
EXCEPTIONTRACKING
EVENTLOGGER
DISTRIBUTEDTRACING
DEPLOYMENTLOGGING
DATABASETRACKING
AUDITLOGGING
0 15 16 21 28
0 1 1 5 5
1 20 20 14 26
0 4 4 4 5
0 0 0 1 1
1 16 15 19 30
0 15 16 21 27
0 1 1 3 2
0 15 14 18 25
0 5 5 6 9
0 0 0 1 1
0 17 17 17 24
NO
THIRDPARTYLIBRARY
THIRDPARTYPLATFORM
VENDORPROVIDEDLIBRARY
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INSTRUMENTATION
Frequency
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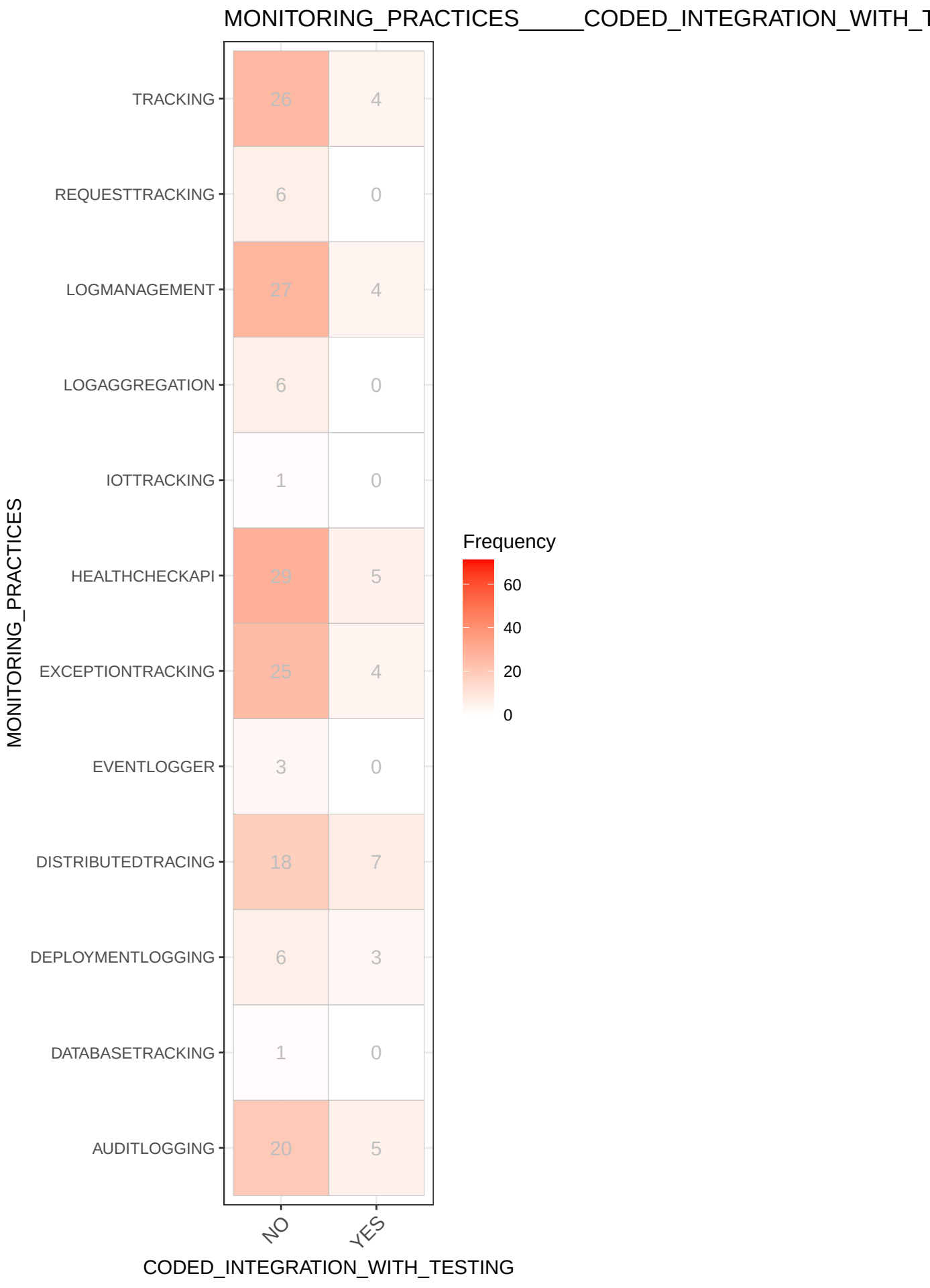
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IOTTRACKING
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EXCEPTIONTRACKING
EVENTLOGGER
DISTRIBUTEDTRACING
DEPLOYMENTLOGGING
DATABASETRACKING
AUDITLOGGING
26
4
6
0
27
4
6
0
1
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29
5
25
4
3
0
18
7
6
3
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5
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Frequency
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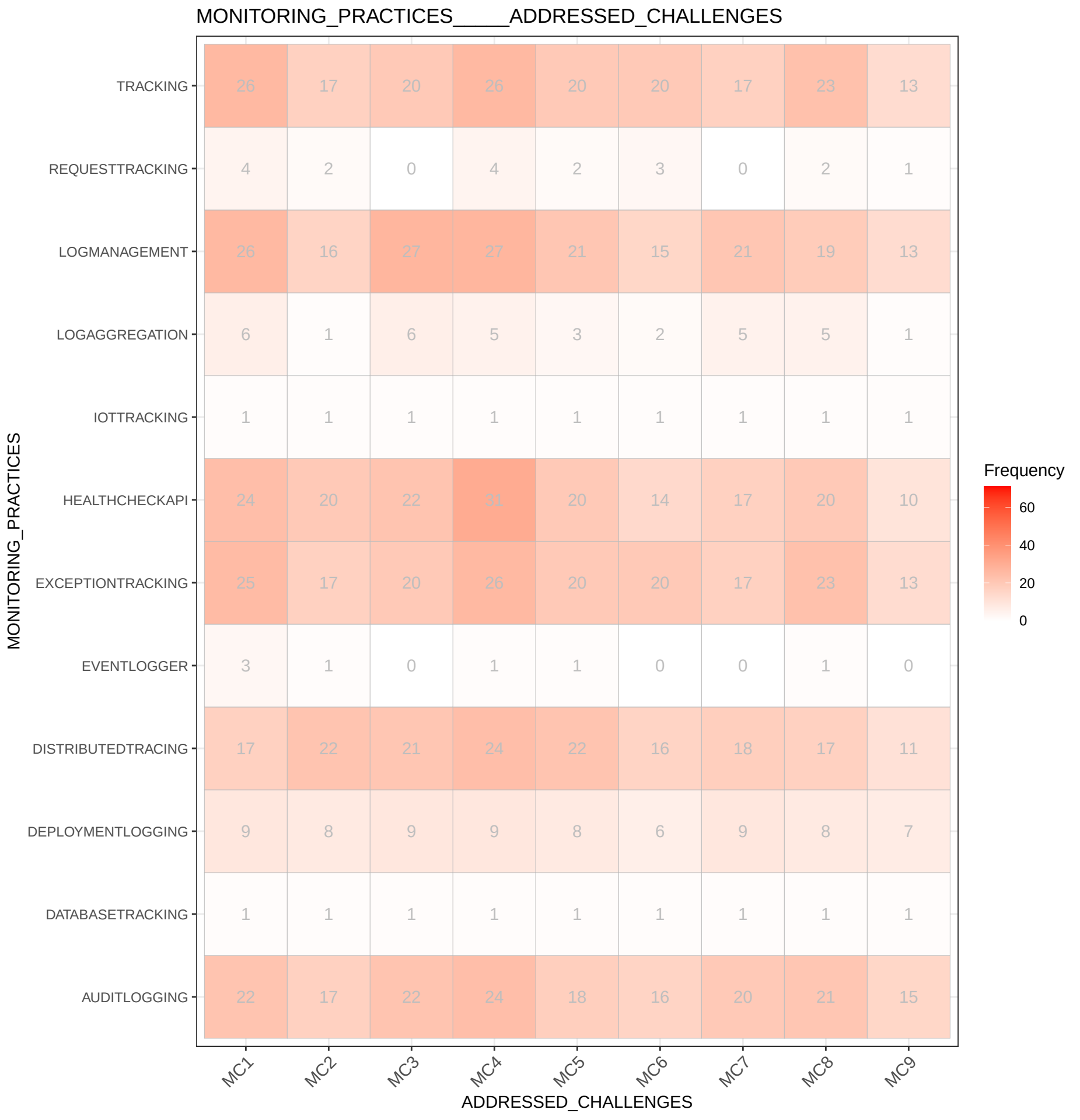
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REQUESTTRACKING 4 2 0 4 2 3 0 2 1
LOGMANAGEMENT 26 16 27 27 21 15 21 19 13
LOGAGGREGATION 6 1 6 5 3 2 5 5 1
IOTTRACKING 1 1 1 1 1 1 1 1 1
HEALTHCHECKAPI 24 20 22 31 20 14 17 20 10
EXCEPTIONTRACKING 25 17 20 26 20 20 17 23 13
EVENTLOGGER 3 1 0 1 1 0 0 1 0
DISTRIBUTEDTRACING 17 22 21 24 22 16 18 17 11
DEPLOYMENTLOGGING 9 8 9 9 8 6 9 8 7
DATABASETRACKING 1 1 1 1 1 1 1 1 1
AUDITLOGGING 22 17 22 24 18 16 20 21 15
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MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
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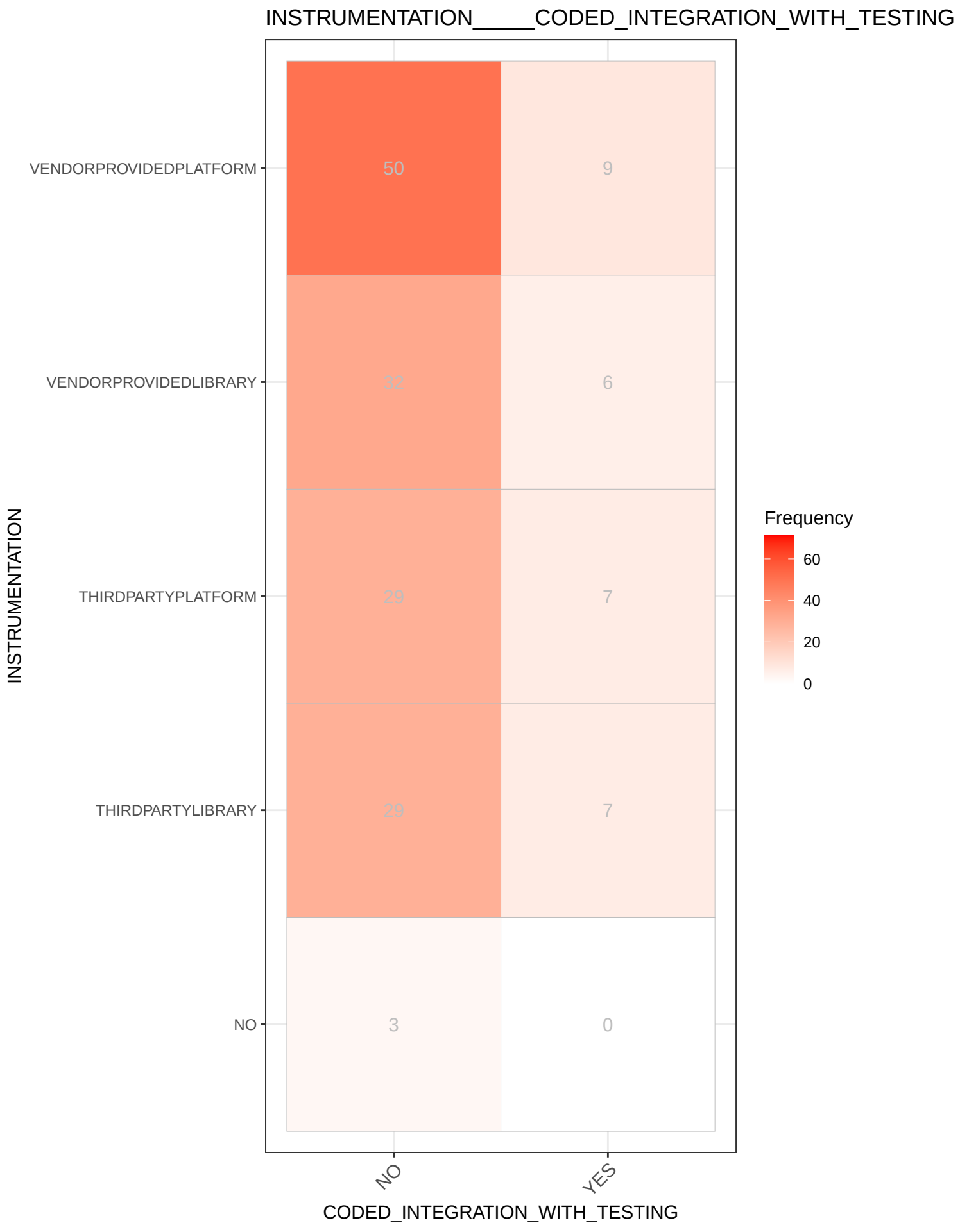
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VENDORPROVIDEDLIBRARY
THIRDPARTYPLATFORM
THIRDPARTYLIBRARY
NO
INSTRUMENTATION
50
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29
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0
NO
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CODED_INTEGRATION_WITH_TESTING
Frequency
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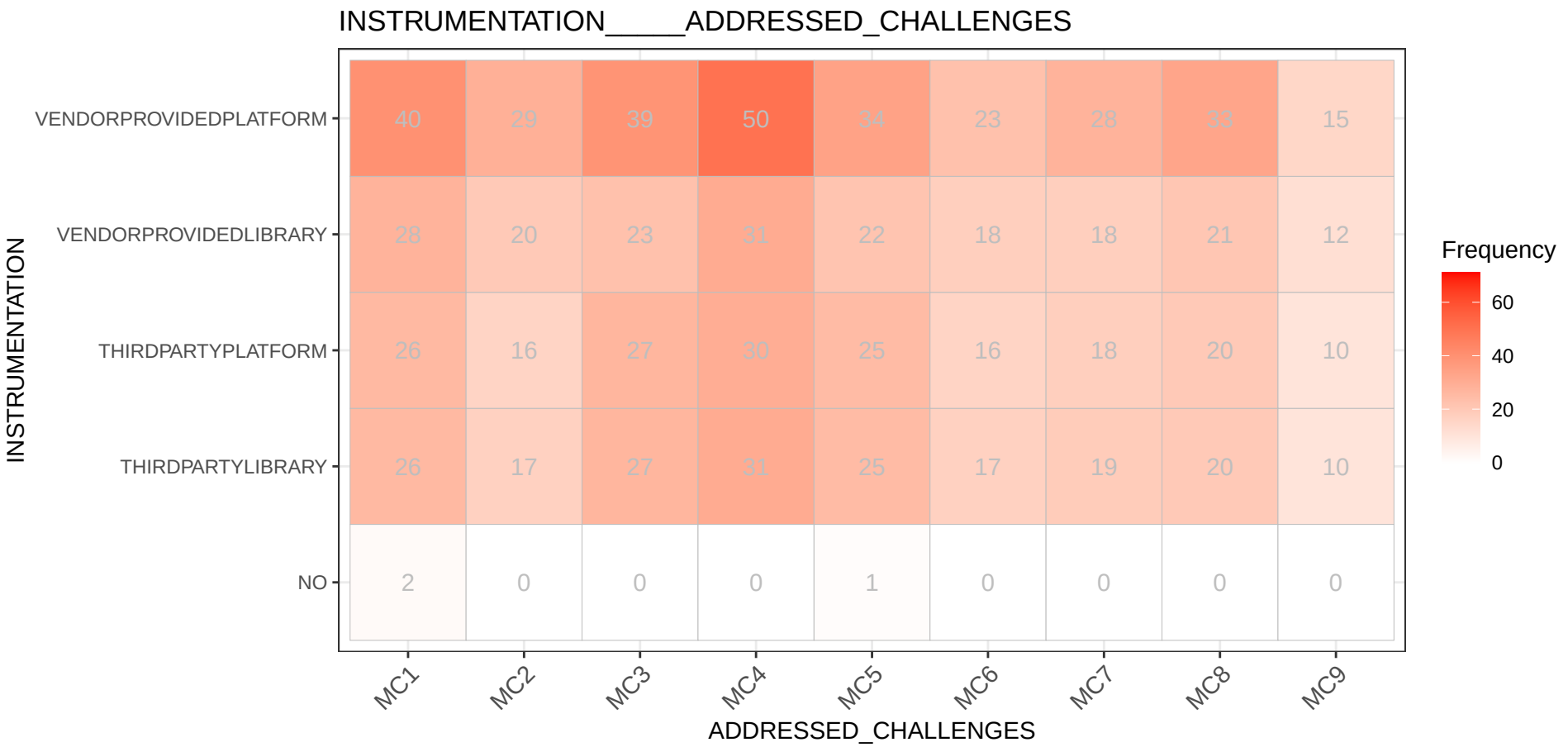
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VENDORPROVIDEDLIBRARY
THIRDPARTYPLATFORM
THIRDPARTYLIBRARY
NO
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28 20 23 31 22 18 18 21 12
26 16 27 30 25 16 18 20 10
26 17 27 31 25 17 19 20 10
2 0 0 0 1 0 0 0 0
MC1
MC2
MC3
MC4
MC5
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ADDRESSED_CHALLENGES
Frequency
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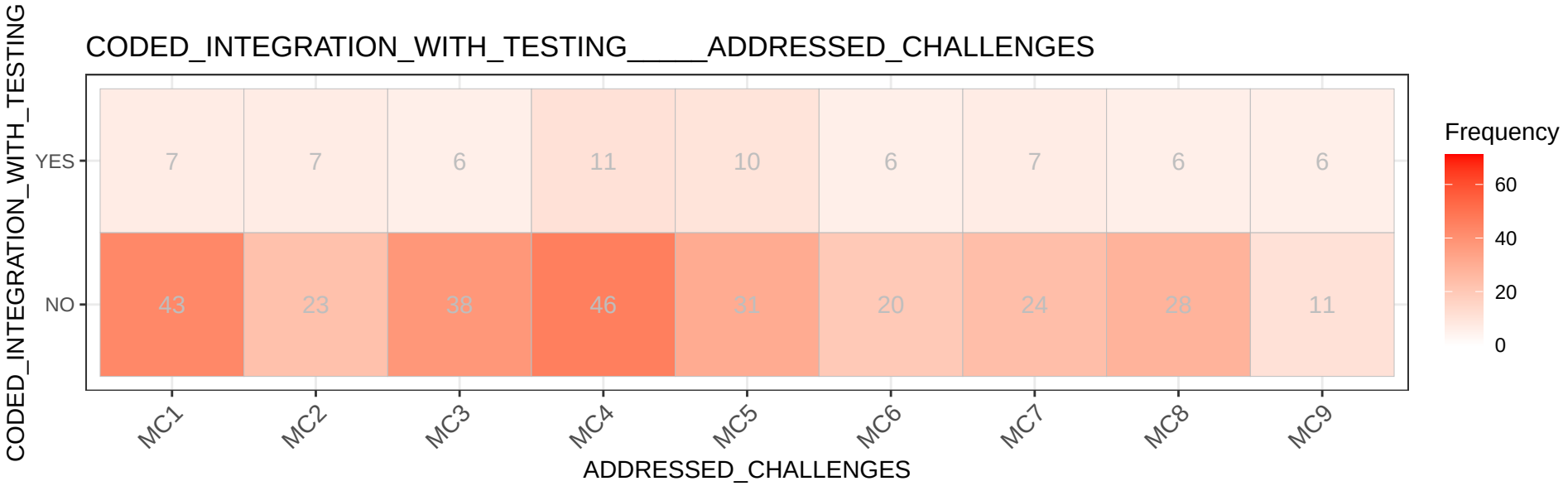
CODED_INTEGRATION_WITH_TESTING_____ADDRESSED_CHALLENGES
CODED_INTEGRATION_WITH_TESTING
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NO
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6
11
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6
7
6
6
43
23
38
46
31
20
24
28
11
MC1
MC2
MC3
MC4
MC5
MC6
MC7
MC8
MC9
ADDRESSED_CHALLENGES
Frequency
60
40
20
0