

Arithmetic Instructions

- The processor executes these instructions using unsigned integer arithmetic with wrap-around semantics.

add

\$rd

\$rs1

\$rs2

sub

\$rd

\$rs1

\$rs2

mul

\$rd

\$rs1

\$rs2

Dive

\$rd

\$rs1

\$rs2

remu

\$rd

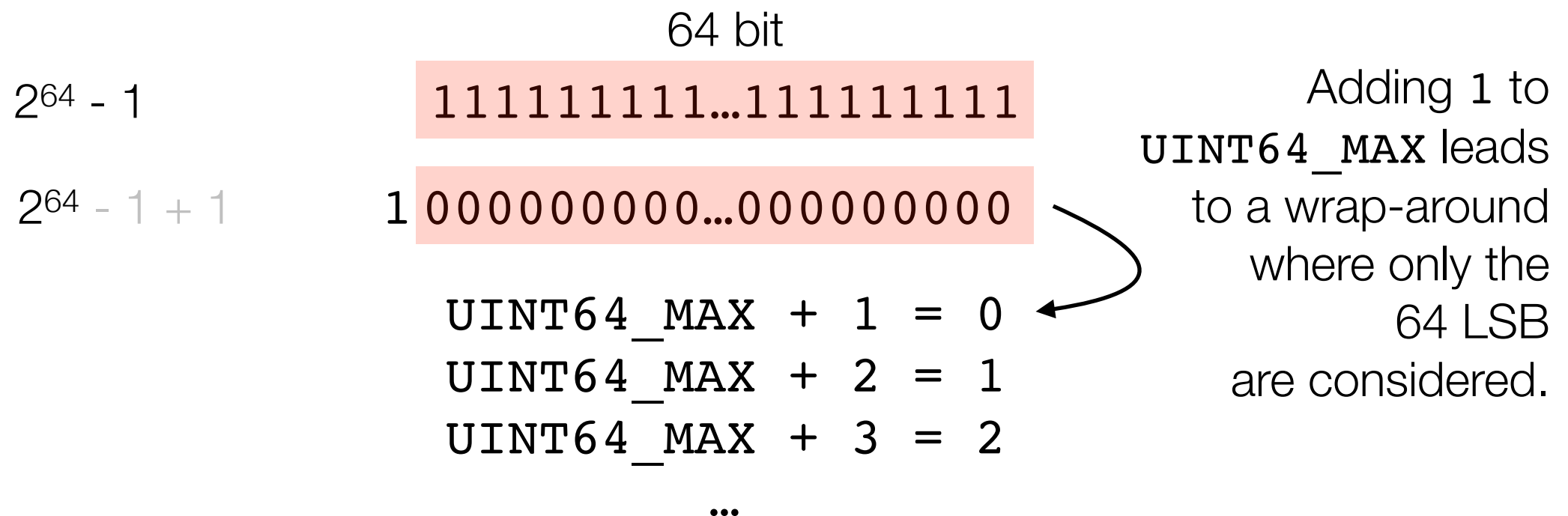
\$rs1

\$rs2

$$\text{\$rd} = \text{\$rs1} +, -, *, /, \% \text{\$rs2}$$

Wrap-around Semantics

- Cause of unbelievably expensive bugs, e.g. the Ariane 5 Flight 501.
- $2^{64} - 1$ is the largest value that can be represented by 64 bits. In selfie this value is denoted `UINT64_MAX`.



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add	\$rd	\$rs1	\$rs2
sub	\$rd	\$rs1	\$rs2
mul	\$rd	\$rs1	\$rs2
Dive	\$rd	\$rs1	\$rs2
remu	\$rd	\$rs1	\$rs2

\$rd = \$rs1 +, -, *, / , % \$rs2

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