

Concepts Overview

Oct 9, 2023

App Storage

	Global	Local	Box
Database Location	Application	Account	Application
Quantity	64 per app	16 per account	Unlimited
Max Size	128 bytes	128 bytes	32kb
On-Chain Access	Public	Public	Private
Delete Permission	App	App or Account	App
MBR Funder	Creator	Account	App account
MBR Cost	Per key	Per key	Per byte
MBR Fund Time	App Creation	Opt-In	Box Creation
Required Resources	App	App and Account	App and Box Key

On Complete

OnComplete	Program	Action On Program Success
NoOp	Approval	Nothing (create application if app ID == 0)
OptIn	Approval	Allocates local state for sender
CloseOut	Approval	Clear local state of sender
UpdateApplication	Approval	Updates approval and clear programs
DeleteApplication	Approval	Deletes the application
ClearState	Clear	Clear local state of sender, regardless of program success

Minimum Balance Requirement

- Every account has a minimum balance
 - Transactions that go below this amount are rejected
- Starting Account MBR: **0.1 ALGO**
- MBR increases when database-size increases
 - App creation
 - Asset creation
 - Storage creation
 - Asset opt-in
 - App opt-in

MBR Changes

Action	Account	Effect on MBR
Asset opt-in	Sender	Increased by 0.1 ALGO
App opt-in	Sender	Increased proportional to state size
App creation	Creator	Increased proportional to program and local state size
Asset opt-out	Sender	Decreased by 0.1 ALGO
App opt-out	Sender	Decreased by same amount as opt-in
App delete	Creator	Decreased by same amount as creation
Box create	App	Increase proportional to data size

AVM Resource Availability

Resource	Data
App	Global state, programs, creator address, ...
Account	ALGO balance, MBR, auth address, ...
Asset	Supply, creator address, metadata, ...
Account + Asset	Asset balance
Account + App	Local state
Box Key + App	Box value

Making Resources Available

Resource	Required Reference(s)
App	Referenced in any app call in the group
Account	Referenced in any transaction in the group
Asset	Referenced in any app call or asset transaction in the group
Account + Asset	Both referenced together in any transaction in the same group
Account + App	Both referenced together in an app call in the same group
Box Key + App	Both referenced together in a app call in the same group