

New menu screen
Updated gm_construct
Updated gm_flatgrass
Added Bone Manipulator
Duplications can now be saved, published on workshop and spawned on servers
Added Demo Rendering
Added frame blending post process effect
Added new achievements
Added Entity Driving
Huge load time improvements
Added option to turn off spawn effect
Added option to turn off world tooltips
Added rope texture option to Hydraulic
Added rope texture option to Muscle
Added rope texture option to Pulley
Added rope texture option to Slider
Added Start On option to Muscle
Dedicated servers can subscribe to workshop addons
Fixed physgun mousewheel being unreliable
Added GM:PlayerSwitchWeapons(pl, LastWeapon, NewWeapon)
Added languages
Games will no longer mount unless they're installed in Steam
Updated PHX Model Pack
Fixed HTTP connection crash
SuperDOF no longer crashes when using multicore rendering
Added Properties to 'C Menu'
Disabled physics penetration warnings
Changed map icons to png images
Fixed HL1 NPCs using wrong gibs
Fixed HL1 grunt droppings
Now uses GWEN skins
Fixed missing wade sounds
Fixed missing crossbow sounds
Added spawnicon build notice panel
Updated spawnicon system
Spawnmenu categories now tree based and customizable
Can bind actions to ANY key (instead of only numpad)
Fixed stalker model
Removed playerinfo from sandbox (wasn't used)
SuperDOF now renders water properly
SuperDOF shows percentage done
Made gravity gun sounds quieter
Removed PixelRender
New freeze/unfreeze effects
New physgun grab effect
Removing no longer reported in the console
Fixed crashing on invalid sound
Fixed generic constraint crash
Fixed motor constraint crash
Added ingame video recording
Undo's, Unfreezes and Limits no longer print to console
Merged weld and easy weld into one tool
Moved statue tool to properties menu
Moved keep upright tool to properties menu
Face posing now works on NPCs
Fixed weapons not being predicted on secondary fire

Spawnicons are now resizable
Can bind console toggle key via options
Fixed env_projectedtexture attenuation on world error
Increased max carried SLAM
Removed toybox
Fixed spawn effect being ping delayed
Can now change FOV, distance and brightness of lamps
Fixed level change crash after loading bad propdata
Windows can no longer be dragged completely off the screen when windowed
Changing mounted content no longer requires a restart
New addon format
Fixed not spawning properly on LostCoast map
Added Dino D-Day to the mountable games list
Fixed "too many indices" error when rendering lots of ropes
Fixed monitors being broken in HL2 maps
Decals no longer remove other overlapping decals
Can load 7.5 VTF's
Can load version 49 models
Can now browse addon models on spawn menu
Turn off fullbright when loading a map if it's lit
Removed sv_gamemode, sv_gamemodeoverride
Added 'gamemode' console command
Should now be able to derive from more than 2 chained gamemodes
sbox_plpldamage changed to sbox_playershurtplayers (to make things more clear)
Fixed double lag compensation errors when shooting glass
Added more spawnable NPCs
Added HL2 Items and Weapons
Added gamemode selector on menu screen
Fixed UTIL_SetModel server crash exploit
Fixed rope_material server crash exploit
Fixed not being able to plug the plug in d1_trainstation_05
Added spawnmenu_border convar
Added sbox_bonemanip_npc (default: 1)
added sbox_bonemanip_player (default: 0)
Added sbox_bonemanip_misc (default: 0)
Added sbox_persist (default: 0)
If sv_alltalk is 2 then voice chat will be heard spatially
Can now pose NPC eyes, hands
Camera is now predicted properly and recorded properly in demos
Added physgun_wheelspeed to control physgun mousewheel speed
Added NPC biggifier and smallifier
Added player colour customization
Added several stock props for tools
Added button animations, models
Added button toggle mode
Added env_skypaint entity

Removed datastream
Fixed errors with Shutdown hook
Added game.AddAmmoType
Added matproxy library
Added taunt camera
Added Player:IsTyping()

Added TextEntry:CutSelected()
Added TextEntry:CopySelected()
Added TextEntry:Paste()
Added TextEntry:Undo()
Added TextEntry:SaveUndoState()
Added HTML:SetScrollbarsEnabled(b)
Added HTML:SetContextMenuEnabled(b)
Added HTML:SetViewSourceEnabled(b)
Added HTML:GetHTMLSize()
Added HTML:GetHTMLScroll()
Added HTML:SetHTMLScroll(x, y)
Added HTML:SetHTMLSize(w, h)
Added Menu:IsInGame()
Added DHTML vgui control
Added DPanelOverlay vgui control
Added Panel:GetChildren()
Added Angle:Set(ang)
Added Angle:Zero()
Added Angle:IsZero()
Added Entity:SetPreventTransmit(ply, bool)
Added Entity:SetNextClientThink(float)
Added Entity:PhysicsInitMultiConvex({{v, v, v}, {v, v, v}})
Added Panel:PaintAt(x, y)
Added surface.SetAlphaMultiplier(0-1)
Added vgui.GetHoveredPanel()
Added Derma Box Selection
Added Derma Drag n Drop
Added DPanelList:SetSortable(b)
Added DPanelList:SetAnimTime(f)
Added DPanelList:SetAnimEase(f)
Added table.RemoveByValue(tbl, val)
Added Panel:OnChildRemoved() callback
Added Panel:DragHoverClick()
Added DTreeNode:AddFolder(strName, strFolder, bShowFiles, strWildcard, bDontForceExpandable)
Added DTree:OnNodeSelected(node)
Added DLabelEditable
Added DPanelList:InsertBefore(before, pnl)
Added DPanelList:InsertAfter(before, pnl)
Added DDrawer control
Added net.WriteInt(val, bits)
Added net.WriteUInt(val, bits)
Added net.WriteDouble
Added net.ReadDouble
Added net.ReadInt(bits)
Added net.ReadUInt(bits)
Added Panel:OnDeletion() hook
Added input.IsShiftDown()
Added input.IsControlDown()
Added Panel:Stop() (stops all animation dead)
Added Panel:Queue() (adds an animation queue point)
Added Panel:AnimTail() (returns system time that the last animation will stop)
Added Panel:Distance(pnl)
Added render.OverrideDepthEnable(benable, bdepth)
Added Panel:SlideUp(f)
Added Panel:SlideDown(f)
Added DTreeNode:GetName()

Added Entity:RemoveAllDecals()
Fixed DButton overriding DLabels SetTextColor settings
Added Panel:HasHierarchicalFocus()
Fixed surface.DrawTexturedRectUV
Added IMaterial:GetColor(x, y) (only works on png)
Added ITexture:GetColor(x, y) (only works on png)
Panel paint hooks now get width + height
KeyValuesToTable correctly loads keys as numbers where appropriate
Removed PhysObject()
TableToKeyValues now 162 times faster
Added EmitSentence(strSentence, vecPos, iEnt, iChannel, fVol, iSoundLevel, iFlags, iPitch)
Added EmitSound(strSound, vecPos, iEnt, iChannel, fVol, iSoundLevel, iFlags, iPitch)
GetPreferredCarryAngles gets called on all physics based entities
Added Panel:AddChild(strPanelClass)
Added Panel:CopyBase()
Added Panel:IsChild(pPanel)
Added Panel:InvalidateChildren(bRecurse)
Added DIconLayout
Added DIconBrowser
Dbuttons can now be toggle
Added Button:DoDoubleClick
Console commands receive ArgS variable
Removed DSysButton
Added Material:SetMaterialUndefined
Added MsgC(color, str, ...)
Added gui.IsGameUIVisible()
Added gui.IsConsoleVisible()
Added extra check in PlayerDeath
Added Panel:GetFont()
Added Entity:GetNoDraw()
Panel:SizeToChildren now correctly accounts for padding
Added Label:GetTextSize
Added Label:GetTextInset
Added Panel:HasHierarchicalFocus()
Added net library
Added widgets
Added util.IntersectRayWithPlane(raystart, raydirnorm, planepos, planenorm) (returns hitpos or nil)
Added util.IntersectRayWithOBB(raystart, raydirnorm, obbpos, obbang, obbmin, obbmax) (returns hitpos+normal or nil)
Entity:IsOnFire is now shared
Added Entity:FollowBone(parent, boneid)
Added PlayerTick hook
Added CMoveData:KeyDown(key)
Added CMoveData:KeyWasDown(key)
Entities no longer have to be in a folder, can be single files (ie entities/ent_ball.lua)
Fixed OnPlayerHitGround hook
Added util.DistanceToLine(vstart, vend, vpos) (returns fdist, vpos, falong)
Added Entity:SetBoneManipulator(ent)
Added Entity:GetBoneManipulator()
Added Entity:ManipulateBonePosition(boneid, vector)
Added Entity:GetManipulateBonePosition(boneid)
Added CUserCmd:RemoveKey(id)
Added halo library
Added new render hook "PreDrawViewModel"
Lua created Point entities can now be networked (using UpdateTransmitState)
Added render.GetSmallTex0()
Added render.GetSmallTex1()

Added render.GetColorModulation()
Added render.GetBlend()
Added render.MaterialOverride(material | nil)
Added render.BlurRenderTarget(rt, sizex, sizey, passes)
Removed enums folder
Added properties library
Added numpad.FromButton() - returns true if the numpad callback is being called from a button
Added duplicator.SetLocalPos(vec)
Added duplicator.SetLocalAng (ang)

Added Entity hook "CalcAbsolutePosition"
Added render.DepthRange(flmin, flmax)
Added Entity:GetParentAttachment() (returns int)
Added render.DrawLine(vec, vec, color, zbuffer)
Added render.DrawBox(vec, angle, vec, vec, color, zbuffer)
Added render.DrawWireframeBox(vec, angle, vec, vec, color, zbuffer)
Added render.DrawWireframeSphere(vec, size, int, int, color, zbuffer)
Added render.DrawSphere(vec, size, int, int, color)
Added Entity:HasBoneManipulations()
Added MenuSystem:RawConsoleCommand()
Lua is stricter, errors more
Added Entity:GetLocalAngularVelocity()
Added Entity:SetLocalAngularVelocity(angle)
Added Entity:Use(activator, caller, use_type, value)
PlayerConnect hook no longer passes IP Address clientside
Fixed wrong bullet collisions on SENTs with custom physics objects [verify]
Added scripted_ents.Alias(from, to) [verify]
Added string.JavascriptSafe(str) [verify]
Effects can now be loaded from effects/effectname.lua
Added DMenuBar
DMenu can specify whether they should be deleted when closed
Overlay panels will no longer draw if hidden (!)
Added menubar library
Added menu option checking
Added DMenuOptionCVar
Added Entity:GetMomentaryRotButtonPos(ang)
Fixed security in file.FindDir
Entity:SetColor now only takes a Color table
Entity:GetColor now only returns a Color table
Added system.IsWindows()
Added system.IsOSX()
Added system.IsLinux()
Added system.HasFocus() (windows and mac only)
Added PANEL:SetTabbingDisabled(b)
Added PANEL:GetTabbingDisabled()
Added render.PushFlashlightMode(b)
Added render.PopFlashlightMode()
Added GM:FindUseEntity(ply, ent) [verify]
Entity:DrawShadow now works on players [verify]
Fixed math.randomseed [verify]
Entity:SetRenderBounds no longer clamped
Fixed UTIL_ScreenShake not working clientside
Added Panel:GetChild(iNum)
Added Player:AddVCDSequenceToGestureSlot(i, i, f, b)
File.Read now takes a 3rd parameter bool. True to read in binary mode.
Overlays now come from the list OverlayMaterials

Added spawnmenu.SetActiveControlPanel(pnl)
Added spawnmenu.ActiveControlPanel()
Added spawnmenu.ActivateToolPanel(tabid, controlpanel)
Removed global g_ActiveControlPanel
Added video.Record(table) (returns vid object on success)
Added Vector:DistToSqr(vec)
Added Vector:WithinAABBox(vecmin, vecmax)
Added Vector:IsZero()
Added Vector:IsEqualTol(vec, float_tolerance)
Fixed players taking damage twice
Fixed some Lua pushing number accuracies
Removed ents.Create clientside
Added ents.CreateClientProp(model)
Fixed Panel Alpha getting reset
Added AvatarImage:SetSteamID(strID, iSize)
Player:SetAmmo ammo type can now be a string OR an integer
Added util.Compress(str)
Added util.Decompress(str)
Revamped file library
Added cleanup.GetList()
Updated Entity:EmitSound(name, ilevel, ipitch, fvolume[0-1])
Added ents.FireTargets(str, ent, ent, int, float)
Added Entity:SetIK(bool) [clientside]
Added Entity:SetupPhonemeMappings(filename) [clientside]
Added util.IsSkyboxVisibleFromPoint(vec) [clientside]
Added AddonMaterial(addonid)
Added render.SetShadowDirection(vec)
Added render.SetShadowColor(r, g, b)
Added render.SetShadowDistance(f)
Added render.SetShadowsDisabled(b)
Added Entity:GetRenderFX()
Added Entity:GetRenderMode()
Added Panel:Show()
Added Panel:Hide()
Added game.AddDecal(name, decalmatname);
Added game.AddParticles("particles/<name>.pcf")
Removed ParseParticleManifest
Added Entity:ObjectCaps()
Added Panel:IsChildHovered(iDepth)
Added engine.GetGames()
Removed GetMountedContent()
Removed GetMountableContent()
Added game.GetMountedAddons()
Added string.StartWith(str, start)
Added string.EndsWith(str, end)
Removed GetGamemodes()
Removed GetAddonList()
Removed GetAddonInfo()
Added engine.GetMountedGames()
Added engine.GetMountedAddons()
Added engine.GetGamemodes()
Added cam.Start(table)
Fixed Matrix errors Msging instead of Erroring
Added Entity:GetNumPoseParameters()
Added Entity:GetPoseParameterName(i)
Added PhysObj:GetMesh() (returns table)

Added gameevent.Listen(event_name) (game event will then travel through hooks)
Added physenv.AddSurfaceData(text)
Added cam.End()
Added DHTML:QueueJavascript(js)
Added engine.ActiveGamemode() (returns string)
util.ModelInfo now provides KeyValues
Added NPC:IsNPCMoving()
Added NPC:IsUnreachable(ent)
Added Ent:GetSequenceMoveYaw(i)
Added Ent:GetSequenceMoveDist(i)
Added Ent:SetHitboxSet(i | string)
Added Ent:GetHitboxSet() (returns i, str)
Added Ent:GetHitboxSetCount()
Added Ent:GetHitboxBone()
Added Ent:GetBoneController(i) (returns float)
Added Ent:SetBoneController(i, float)
Added Ent:GetSequenceGroundSpeed(i)
Added Ent:GetGroundSpeedVelocity() (returns vector)
Added util.DecalEx(mat, ent, pos, norm, color, w, h)
Added Entity:GetShouldPlayPickupSound()
Added Entity:SetShouldPlayPickupSound(bool)
Fixed crash in ply:ConCommand containing a %
Added Entity:GetPoseParameterRange(i) (returns 2 floats)
Added system.BatteryPower() (returns 0-100, 255 if on AC)
Added system.AppTime() (seconds app has been running)
Added system.UpTime() (seconds system has been running)
Added system.SteamTime() (unix epoch PST)
Added system.GetCountry() (country code we're in ["US", "UK" etc])
Added DHTML:SetAllowLua(bool) (allows webpage to call Lua via console.output)
Added sound.Add(table)
Added Entity:GetAttachments()
Added Entity:GetBodyGroups()
Added Entity:GetTextures()
Added Entity:GetBrushPlaneCount()
Added Entity:GetBrushPlane(i)
Added Entity:GetSubModels()
Added net.WriteChar
Added net.ReadChar
Added gui.ActivateGameUI()
Added net.WriteData(str, size)
Added net.ReadData(size)
Added util.JSONToTable(str) [returns table]
Added Panel:Find(str) [finds by name]
Added Panel:LoadGWENFile(filename, path) [loads .gwen designer files]
Added Panel:LoadGWENString(str)
Added engine.IsPlayingDemo()
Added engine.IsRecordingDemo()
concommand.Add can now take FCVAR flags
Added util.TableToJSON(tbl)
Added Player:ShowProfile()
Added player:VoiceVolume()
Added render.RenderHUD(x, y, w, h)
Added SWEP:Tick()
Added UserCmd:CommandNumber()
Player:DrawViewModel(b) is now shared
Fixed Player:GetCurrentCommand() returning wrong command on client

Added engine.TickInterval()
Added file:Flush()
Added Entity:SetSpawnEffect(b) (set to true entity will spawn with effect)
Added Entity:GetSpawnEffect()
Added Entity:GetCreationTime() (returns the time was created on server)
Added GAMEMODE:NetworkEntityCreated(ent) (clientside)
Added Player:SteamID64()
Added render.BrushMaterialOverride(mat)
Added render.ModelMaterialOverride(mat)
Added render.RenderNormalBuffer()
Added render.GetNormalBuffer()
Added render.DrawTextureToScreen(tex)
GetRenderTargetEx now takes an imageformat as the 8th argument
Added render.GetPositionBuffer()
Added render.RenderPositionBuffer()
Added render.DrawScreenQuadEx(x, y, w, h)
Added render.SetRenderTargetEx(int, texture)
Added render.DrawTextureToScreenRect(tex, x, y, w, h)
Added Entity:GetModelBounds() (returns mins, maxs)
Added Entity:GetModelRenderBounds() (returns mins, maxs)
Added Entity:GetSequenceCount()
Added Entity:GetSequenceInfo(id)
Added Entity:GetModelRadius()
Added util.IsModelLoaded(strModel)
Added HTTP(table) (see http.lua)
Added http.Post(url, params (table), onSuccess, onFailure)
Player:GetViewEntity() is now shared
Added util.Base64Encode(str)
http.Get parameters changed to http.Fetch(url, onSuccess, onFailure)
Added Entity:PhysicsInitFromVerts(verts, bStatic)
Added CMoveData:KeyPressed(key)
Added CMoveData:KeyReleased(key)
Added GM:CanDrive(pl, ent)
IMesh::BuildFromTriangles now accepts "color" members
Added render.GetAmbientLightColor()
Added render.ComputeLighting(pos, normal)
Added player:AllowFlashlight(bAble)
Added player:CanUseFlashlight()
Entity:IsOnFire() is now available clientside
Added render.ComputeDynamicLighting(pos, normal)
Material objects now load and are available serverside
Added sv_sticktoground (stops players flying in the air when running up slopes)
Fixed not being able to set some NPCs on fire
Added HTML:UpdateHTMLTexture() - redraws the texture if needed (called automatically when painting - only needed when using the material)
Datapack system no longer uses dua files
Added numpad.Toggle(pl, num)
Fixed not seeing sv_loadingurl until almost entering the server
AddCSLuaFile now complains if it can't find the file
If AddCSLuaFile is called with no string - it adds current file
Better "Lua Error Dump!" errors
Better "Lua Stack Leak!" errors
WorldSound now takes 5th parameter 'volume' - a float 0-1
timer.IsTimer renamed to timer.Exists
Renamed Material:[Get|Set]Material* to Material:[Get|Set]*
Angle/Vector defaults to 0, 0, 0

Renamed NewMesh to Mesh
Added Player:IsWorldClicking() (shared)
Removed Player:GetCursorAimVector()
Added Panel:SetWorldClicker()
Removed hook 'ContextScreenClick' (now redundant)
Removed hook 'CallScreenClickHook'
Added `aspect` option to RenderView
Fixed crashes in Shutdown hook
Changed to surface.CreateFont(name, table)
Added OnReloaded hook to gamemode and entities - called when it has been reloaded by auto refresh
Removed ValidEntity(ent) (replace with IsValid(ent))
Added hammer.SendCommand(str)
Added game.GetMapVersion()
Added game.MapLoadType()
Added game.StartSpot()
Added Button:DoMiddleClick()
Added steamworks. library
Added DHTML:AddFunction(objectname, functionname, function)
file.Find takes third param - "datedesc", "dateasc", "namedesc", "nameasc"
Added Entity:EnableMatrix(str, matrix) (str should be "RenderMultiply") (client)
Added Entity:DisableMatrix(str) (client)
Added Entity:IsRagdoll()
Added Entity:GetRagdollOwner()

