

The entire purpose of doing this is to get some of the facts that people might not know from different resources and put them all together in a thread. Due to all of the confusion and people lacking knowledge about the Xbox one.

FAMILY SHARING (not available at launch)

- Family Sharing does not have to be blood relatives (two people on the family plan can single player portion at the same time, other people can play concurrently)
- Share a game's DLC with family members
- Buy it once and two people can play the game concurrently
- No time limit on playing or sharing the games

NOTE: A lot of people think this feature among others have been cancelled, this is incorrect. It has been delayed. You most likely will see this feature in 2014.

XBOX LIVE GOLD

- **One Gold account subscription needed per entire Xbox.** Sub accounts only need one Xbox Gold account for the entire Xbox.

Q: What is Upload

A: Upload* is a new gaming and entertainment experience in Xbox One that, by making use of our Game DVR functionality, enables users to show off many of their greatest gaming moments in their own personal way. **With Upload, users not only get a powerful, easy to use video editing tool, the Upload Studio, but also a destination where users can access their own content and see what others have created.**

*Available with supported games

Q: What kinds of editing features does Upload Studio have

A: Upload Studio allows you to **personalize your video clips using a suite of editing tools, including clipping, voice over, slow motion, picture in picture, skins, bookends, some music and others.** Players will also be able to choose from a selection of editing templates available to them in Upload Studio.

Q: What is Twitch on Xbox One?

A: With our exclusive partnership with Twitch, you can broadcast your Game DVR highlights to all corners of the globe, **instantly stream your gameplay on Twitch,** one of the world's largest platforms for the live streaming of games and game highlights.

XBOX ONE UI

This is an example of the current UI using the American Football NFL, but it could be anything really.
<http://www.youtube.com/watch?v=N57j0bwmP5s>

XBOX ONE AVATARS

Taken from the Xbox One FAQ

We are making the new system more personal, putting you at the center of all your games, TV and entertainment. To do so, Xbox One leverages your natural identity while continuing to have avatars as an important part of your identity. We will share more in the coming months.

NOTE: In Kinect Sports Rivals for Xbox One it uses your likeness by scanning your body and putting you in your game in a more stylized way.

XBOX ONE DASHBOARD

Taken from the Xbox One FAQ

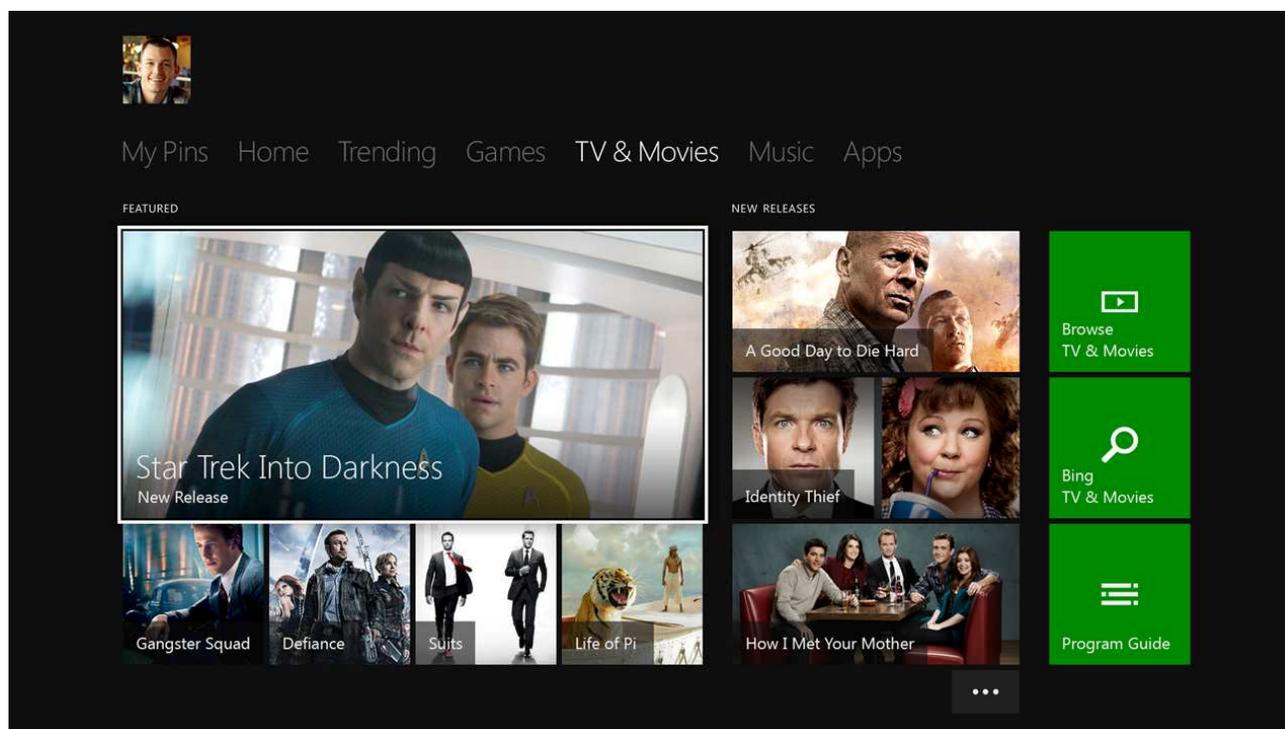
Q: Are you able to personalize the dashboard, per person?

A: Yes. Xbox One understands the unique likes and interests of each person in your family and will serve up relative content including TV, games, music and movies. You will also have frequent updates with live tiles on Skype to view messages and incoming calls.

This is a screenshot of the regular dashboard of Xbox One...

Notice there are titles for each section allowing you to use voice to navigate or to select items.

<http://d1vr6n66ssr06c.cloudfront.net/wp-content/uploads/2013/05/xbox-one-dashbaord-6.jpg>



XBOX ONE SKYPE

<http://www.wired.com/gadgetlab/2013/05/xbox-one/>

This, more than anything, is the Xbox One's killer app: instant access to all the entertainment services you already use, and true multitasking. Skype calls while you're playing a game? Sure. The **Kinect already uses a combination of noise- and echo-cancellation and waveform "beam steering" to hear you over the sounds**

of anything you're playing and watching, so you won't even have to raise your voice above normal conversational levels.

XBOX ONE OSes

13:00 - 15:10

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

One OS is dedicated towards gaming specifically and only runs one game at a time, the other OS uses the Windows 8 Kernel. Both are switched on the fly using Virtual Machine technology. Both OS Virtual Machines are available at boot and are always available. Match making session can be used in the background as an application to wait for your friends to get online.

Dave Cutler worked on the (Hyper-V) Virtual Machine part of Xbox One's OS. For those that don't know he is an originator and innovator on building one of the first Operating Systems.

16:32 - 17:25

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

Swapping between game and TV/Video/OS. Display Planes swap which one can be displayed instantly as they are both running at the same time.

<http://www.wired.com/gadgetlab/2013/05/xbox-one/>

You walk into your room and say "Xbox on," the **Kinect sensor hears you and turns on your entire setup via infrared blast: TV, Xbox One, even your cable box.**

HARDWARE

- Latest out-of-order 64-bit (including nested paged table support for Virtual Machines) CPU processor which is more efficient than that of Xbox 360's Power PC
- The GPU can **multitask using several rendering and compute threads (including A.I. collision detection)**

32:25 - 32:57

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

- **Partially Resident Textures (PRT)** is a feature in hardware uses the GPU. **Save gigabytes of memory, by not having to have all of the data loaded all of the time. The GPU can make the decision on what is needed. This technology can help create huge dynamic worlds.**

Note: This technology was used by John Carmack, but now it's a dedicated feature in hardware.

This is a Direct 3D 11.2 new feature in hardware and the API itself.

32:57 - 33:09

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

- **LZ-77 Move engines to work behind the scenes (background threads) for hardware compression & decompression on the fly. Which is really important with working with data from and to the cloud.**

NOTE: Make no mistake this is HUGE. It allows the Xbox One hardware to decompress assets from the cloud on the fly in hardware and inject directly and instantly into the memory for the GPU. A cloud based game can change on the fly either by code or assets.

- **Dynamic Voltage Scaling** which allows you to scale based on what the console needs.
- **Has switches in silicon** that allows you to turn off cores at will.

HDMI-IN / HDMI- OUT

27:47 - 28:16

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

- 4K, 3-D, and 7.1 surround all supported for HDMI-IN and HDMI-OUT.
- Consumer electronics control so you can turn on the TV and other consumer electronics hardware as well.

NOTE: Both Sony's PS4 and Microsoft's XBOX ONE will ONLY have HDMI for video.

WIFI

05:25 - 05:41

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

Two 802.11 a/b/g/n Radios (one for a dedicated connection to your router and the other dedicated to send to your controller, Smart Glass, or other device)

POWER

Multiple power states. One low-end state that basically listens for the word "Xbox On". The power consumption of the Xbox One changes based on what you need in game and media. It can turn off cores and the entire system is dynamic when it comes to power use (wake on LAN).

XBOX ONE TV

This feature allows you to play TV / Play Xbox one games / Play Music / Play Bluray movies without changing the Input on your TV. This is huge because it makes gaming even more convenient. Then you can use your voice to play a movie, play any game, search on the console or to play music without any work on your part except using your voice.

Q: Do I need to have a specific cable or satellite TV provider to watch live TV on Xbox One?

A: Our goal is to enable live TV through Xbox One in every way that it is delivered throughout the world, whether that's television service providers, over the air or over the Internet, or HDMI-in via a set top box (as is the case with many providers in the US). The delivery of TV is complex and we are working through the many technologies and policies around the world to make live TV available to all markets where Xbox One is available.

Q: Will Microsoft be working with local broadcasters to retrieve the program schedules shown in the OneGuide?

A: Information that appears in the OneGuide has been created and licensed by Xbox, and works in conjunction with video services that consumers subscribe to from cable and satellite companies. Our goal is to ensure that information in the OneGuide accurately reflects local programming in any region where OneGuide is available.

Q: How will you deliver live TV in Europe and the rest of the world?

A: Consumers around the globe access live TV in their homes a number of different ways. We're focused on delivering TV integration solutions that complement existing consumer setups starting first with HDMI pass-through. **We'll continue to explore options for adding more TV experiences over time. Microsoft is committed to bringing live TV through various solutions to all the markets where the new Xbox will be available**, but we have nothing further to announce at this time.

KINECT

08:21 - 10:16

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

- Kinect completely designed from the ground up
- Uses Time Of Flight technology (TOF) which is more expensive and more accurate.
- Field of View is 60 percent better
- Can recognize up to 6 skeletons at once
- Getting closer for taller people (Todd can get 3 feet away and he is 6'4)
- Allows the sensor to be used in smaller rooms
- Depth quality is better (minimum object size is 2 1/2 times better)
- Fingers and hands can be used better tracked now
- Biometric features (Can recognize facial expressions and tell if you are looking away from the sensor.
- Kinect allows developers to not have to worry about Identification and it frees the hardware from processing.
- Kinect Privacy concerns taken care of. <http://news.xbox.com/2013/06/privacy>
- Active IR with the TOF sensor can see in low light and helps using Identification. Active IR can also help with expressions.

From the Xbox One FAQ:

Q: Are there playspace requirements for the new Kinect?

A: The new Kinect offers a 60 percent increase in field of view, **which enables a wider play space, the ability to play closer to the sensor and better tracking of players of a variety of heights in a wide variety of living room environment from large western living rooms, to smaller spaces typical Europe and Asia.**

XBOX ONE CONTROLLER

Q: Are the two buttons in the middle of the controller still the back and start buttons, or do they have different functionality?

A: The two buttons in the middle of the Wireless Controller are Menu and View buttons. **The Menu button (on the right) will bring up context-specific menus, which game and app developers can design to enhance the user experience. The Menu button could also be used in scenarios such as bringing up in-game menus, showing video playback options, and accessing commands on the console's user interface.** The View button (on the left) **will change views or provide more information in games and apps. The function of the View button will be driven by developers. Possible uses of the View button include viewing a map during a role playing game, displaying a leaderboard in a first person shooter, and enhancing the navigation of the console's user interface.**

Q: Will you offer wired controllers for LAN parties and other scenarios where multiple consoles are in close proximity? (If not, why not?)

A: When the Wireless Controller is plugged into the console using a USB to Micro-USB cable, **the wireless radio is disabled and wireless controller will function as a wired controller.** Communication and power will run through the cable.

Q: How many controllers can be used with the new system simultaneously?

A: If you connect just Wireless Controllers with no add-ons such as Chat Headsets, you can connect at least **eight controllers simultaneously.**

Q: Can I take this controller to my friend's house and pair it with his/her console as well?

A: Yes, the Wireless Controller can work on any Xbox One console. Controllers that come with the console are preset at the factory to work with that particular console. **To pair the controller with a new console, simply make sure both your controller and console are on and press the console's power button.** If necessary, press the enrollment button on the front of your controller.

<http://majornelson.com/2013/06/06/more-details-about-xbox-one-controller/>

Seamless Connectivity – Each controller uses a combination of invisible reflective technology and LEDs to send a patterned infrared signal to your console and Kinect sensor. Not only does this make pairing the devices seamless, but it enables Kinect to associate the controller with whoever is holding it. This introduces innovative experiences, such as player switching, where a split screen display can swap positions on the TV if users change seats on the couch.

Low Power State – If you're watching a movie or need to step away from the TV, the controller enters a low power state that conserves your battery. The moment you pick it up again, it will be ready for use without having to resynch with the console.

XBOX ONE SMARTGLASS

<http://news.xbox.com/2013/06/e3-marc-whitten>

Richer SmartGlass Experiences: Xbox SmartGlass for Xbox One allows you to turn your console on and off, adjust volume, manage your TV set-top box and Blu-ray, and integrates with Xbox One so you can search the programming guide without interrupting your current activity. Xbox SmartGlass also gives you full control over your game to start a game, launch multiplayer, view achievements, see real-time progress updates during gameplay, receive in-game tips, purchase Add-ons and more.

XBOX ONE GAMES

<http://www.eurogamer.net/articles/digitalfoundry-hands-on-with-xbox-one>

- **Battlefield 4 by EA : 1080p at 60 FPS is being targeted on Xbox One, and also 64 players in multiplayer** (Sounds like Battlefield 4 is using some server features exclusively from Microsoft). This is an **Xbox One / PS4 Launch title.**

Can EA get Battlefield 4 up to 60 Frames per second on the PS4? I would seriously doubt this as they specifically state Xbox One. They would have added "PS4" or "both consoles", but they didn't for a reason.

- Quantum Break game footage was in engine of the game. The graphics were real-time.

Bonnie Ross - Head of 343 Industries

<http://www.youtube.com/watch?v=fSXicnwHgss> (1:19:02 - 1:32:00)

- Halo 5 : "A new Halo FPS for a new generation of hardware will take **FULL advantage of the power and flexibility of Xbox One.** A Halo engine enhanced by the power of cloud computing, dedicated servers, and for the first time on console a Halo experience that runs at a blistering **60 frames per second.** In 2014 Halo combat will truly evolve and your journey with Halo on Xbox one begins."

<http://majornelson.com/cast/2013/06/21/show-480-e3-and-xbox-one-updates/> (MP3 - 00:19:26 - 00:20:00)
- Plants Verses Zombies : Garden Warfare - Xbox One Exclusive on the Frostbite 3 Engine

<http://majornelson.com/cast/2013/06/21/show-480-e3-and-xbox-one-updates/> (MP3 - 00:38:03 - 00:38:33)
- Project Spark on Xbox One will be **FREE** :-)

- **Ryse: Son of Rome - E3 Interview with James Goddard (Senior Designer for Ryse : Son of Rome)**
<http://www.youtube.com/watch?v=ny5pzYjUtUA>
Does not have QTE (Quick Time Events) 2:25 - 4:15

Another confirmation about Ryse not having QTE (04:30 - 06:25)
<http://www.youtube.com/watch?v=wG6hpTOrMx4>

SERVER SUPPORT (AKA "THE CLOUD")

<http://www.examiner.com/article/xbox-one-multiplayer-games-all-have-dedicated-servers-up-to-128-players>
Xbox One multiplayer games have dedicated servers up to 128 players at once.

Dan Greenwald - Creative Director at Turn 10 (13 years at Microsoft Xbox group)
03:45 - 04:13

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

Much more powerful box that can do things that couldn't be done before, but also is **connected to the cloud to offload processing, processing** that you can't do on the box today. **You can move things such as physics, A.I., worlds, rendering capabilities to the cloud so this box can evolve.**

Boyd Multerer - Partner Director of Development (ISS Console Development Management)
15:40 - 16:30

<http://www.youtube.com/watch?v=tLBVHZokt1Q>

Next generation isn't just about having transistors local, it's also about having transistors in the Cloud.

There is latency sensitive code in games and non-latency sensitive code in a game. The non-latency code can be run on the servers in the cloud, the latency sensitive code can run on the local Xbox One Machine.

Next generation is about change. It frees up local resources on the Xbox One machine and over time the games can get more powerful.

Achievements can be dynamic and change over time. Game worlds can be dynamic and change over time as well via the Cloud.

If you still are laughing this off as some kind of marketing, then you need to watch this video about Microsoft Azure Data Centers.

<http://www.youtube.com/watch?v=JJ44hEr5DFE>

Also, if you still don't believe this you can look to a third party "Respawn Entertainment" and they tell you in detail about the cloud servers and what they do.

<http://www.respawn.com/news/lets-talk-about-the-xbox-live-cloud/>

Hideo Kojima from Konami - Server Processing interacting with dynamic worlds via the Server.
<http://www.computerandvideogames.com/414360/interviews/e3-interview-kojima-on-mgs-5/>

So MGS V has been announced for next-gen consoles. How will the new machines change the series?

For MGSV it's definitely the multiple device support and the interactions between handhelds such as smart phones and tablets, which you can use to interact with the world. **And for us we also want to see what we can do with the cloud in the future.**

That's why we did an open-world, because we thought about all of these interactions on multiple devices, **with the power to interact with the MGSV world. We'd like to see how that moves in a social direction as well.**

Interview with Ted Price of Insomniac

http://www.gameinformer.com/b/news/archive/2013/07/02/ted-price-talks-sunset-overdrive-and-the-advantage-of-the-cloud-and-microsoft_2700_s-changing-platform-policies-.aspx

"The potential of the cloud for console developers is pretty large," he stated. "Over the next five or six years, it's one of those technologies that will change in meaning as we see more games come out and take innovative approach to the more and more offline processing that's available."

NOTES ABOUT "THE CLOUD"

Microsoft is using dedicated servers for almost every first party title. The cloud aspect is far deeper than this though. Because the word "Cloud" sounds like marketing garbage, most people dismiss it and laugh it off. In this case though it is not marketing, this is real and it's not just dedicated servers, that part is fully true, but the servers can do more than just dedicated servers. Microsoft's own use of "The Cloud" includes entire Application Programming Interfaces or (APIs) that can be updated on-the-fly from Microsoft and can do the following things....

- 1) Dedicated servers for online multiplayer games that can be used for Xbox One games. The norm will probably be 64 players per server at once, but can scale up to 128 players per server at one time. This is a much, much, much better solution than peer-to-peer. If you want to know the details you can look at the "Respawn" link above about how dedicated servers work and why they are better than peer-to-peer.**
- 2) These servers can also be used for storage for each member on Xbox Live (including stats, avatars, settings, game saves, achievements, friends list, etc..). The Xbox One was built for this and it is why you have to have your console connected to the Internet the first time you use it.**
- 3) Game Analytics allows developers to track what the gamers are doing in their games so that they can have dynamic achievements and also change the dynamics of the graphical world on-the-fly. This not a privacy issue anymore than web site statistics.**
- 4) Offloading processes to servers meaning that you can have more detail with a higher frame rate. This last option is rather interesting because this processing is completely scalable over time. Until this point in time consoles would get better over time when the processes and API's would get better and when the developers understood the hardware. This happens every generation, but now developers can scale beyond the console itself and augment this with server help which can make the games better beyond the static environment of the console.**

Microsoft has built this not as an answer to why their GPU isn't as powerful as Sony's which is true, but because that is what they wanted to drive home a difference between their console and Sony's. It is a technology that is scalable over time. Sony didn't have any answer to server based games until they bought out Gaikai which is going to require significantly more bandwidth to scale out to 720p and 1080p (the longer you play the games, the more bandwidth you are going to use for HD, as it is streaming video) and won't offer games to be changed dynamically.

You will notice that in the hardware section that Microsoft built hardware compression/decompression for content coming from the server and then allows it to be injected directly into the GPU's memory. This is huge, add in buffering and low hops on the dedicated servers and you can start to see how server processing can help build dynamic worlds. So, this saves on bandwidth and speed of the content downloaded from the server. Many people dismissing "The Cloud" abilities are going to be really surprised over the next five years as this will evolve over time and many games that are expected to do only 30 frames per second will do 60. That is one thing that Microsoft has over Sony at the moment. This is why I believe Halo for Xbox One will be 1080p and 60 frames per second because the processing is offloaded on the server and this allows the game to be run at faster speeds, if Microsoft can get third parties on this, Sony could have a hard time with the same game going 30 frames per second.

ENTERTAINMENT

Nancy Tellem - Head of Xbox Entertainment Studios

Worked for CBS and Warner Bros. on the CSI Franchise, and Survivor

041:07 - 043:22

<http://www.youtube.com/watch?v=uP4E3xNU9pU>

"Xbox is expanding the canvas and conceding a whole new art form for the creator, for the viewer, for the community, and for the industry. Until now the Television view experience has been a one way street for the viewer, but now that is about to change. **TV on Xbox will immerse you enabling you to virtually jump into the action whenever you desire.** For the first time ever, TV will truly be **personalized to your taste and your needs; providing recommendations with amazing precision** and only on Xbox will **TV become social in ways unknown to us today. Driven and shaped by the community** of 10s of millions on Xbox Live. This is ONLY Act 1. Teams at Los Angeles, Seattle, Vancouver, and London are using the magic and science of Xbox to **rethink dramas, comedies, competition shows, sports, live events, and digital shorts and one of our first and most important projects starts close to home, Halo.**"

Bonnie Ross - Head of 343 Industries

0:43:22 - 0:46:05

<http://www.youtube.com/watch?v=uP4E3xNU9pU>

Halo TV Show is going to be a Live Action interactive Experience using Kinect.

"I'm excited about the potential of **merging the story telling magic of Television with the Interactive innovation of Xbox One.** So, today along with Nancy I'm thrilled to announce a Live action Halo Television series. Created in partnership with 343 industries and one of the best story tellers of all time Mr. Steven Spielberg."