

## Network Stability

Above all concerns is the concern of network stability. What follows is an explanation of the theories of network stability as well as what steps must be taken in order to assure that stability within this system. In order for me to describe in a consistent and concise fashion the requirement of the networks there are certain basic requirements which I will now lay out.

1. We will include in this example three basic point resources types. In order to allow for later customization these types will simply be titled red, green, and blue, and in the future they may be changed in number and variety to suit the IP to which it is applied.
2. Each game which requires input point resources must have more than one source of income. This is to ensure that should one title fail the dependent titles will not follow.

*Corollary:* Each game that creates point resources must have more than one game to which it is feeding. This is to ensure that said game's resources are always in demand even if one dependent game fails the PR games will not follow.

3. We must create a system containing the fewest possible games. It will be easier to find funding for new games in the network then it will be for finding funding for an initially large network.

A balance must be struck between dependency and connectivity. This is the core issue of this network problem. Whereas the most stability, and therefore the most value, is found within large numbers of connections, having large numbers of connections is expensive and also leaves you dependent on the performance of many other games and would invite a domino failure whereby all those attached to the node would lose value.

The system involves the control of a multidimensional network. This network's two major dimensions are the game world's PR market and the real world videogame market. Depending on the implementation there will also be a physical device network, a genre network, and a licensing or contract network. Each of these networks are made of the same nodes. Each node has 1) one state to represent itself for each dimension, 2) one list to represent all nodes that align with it (which it supports) for each dimension, and 3) one list to represent all nodes that it aligns with (which it requires) for each dimension.

A node can be identical to another node within one or all dimensions, two examples are: current MMOGs have only one node for their videogame, physical device, and genre networks, except for the final fantasy 11 online game which contains two nodes in their videogame and physical device networks, one for the PC game and one for the PlayStation 2 game. Subsequently neither of these two nodes requires the other and they both equally support the parent MMOG.

The entire multidimensional network is also affected by time. As new conditions arise the dynamics in each dimension will change affecting each other dimension. Furthermore in time certain nodes will atrophy and new ones will be created to stabilize and expand the system. These changes are the effects of forces working on the nodes in each dimension.