Emerging Technologies and Networking

 Name:

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### Current trends in distributed networking.

###  One of the contemporary trends in distributed networking is automation and orchestration (Akhgar & Arabnia, 2014). There have been more improvements in automated security functionality. The new technologies are now allowing for automated security rules based on metadata. There have been reduced functions that are done manually. Cloud networking has been prevalent and network monitoring is now a common trend where companies are now using big data analytics tools to generate trend information (Mastorakis, Mavromoustakis, & Pallis, 2017). There has also been an upsurge of tools and software that pull global data from networks and provide individual customers with better insight on the root cause of their issues.

### Future trends

###  Distributed networking is expected to grow exponentially as more businesses are expected to use this technology to solve problems and research hypothesis. Businesses have realized the advantages of distributed networking like cost-efficiency. Distributed networking and Artificial intelligence (AI) will be intertwined (Xiao, 2012). Interconnected networks will use technology science machine learning to make smart choices that offer an advantage to enterprises to boost profits and automate everyday tasks. Distributed networks will also help streamline blockchain and cryptocurrencies thereby availing operators with more security and resources (Shen, 2010).

###  Pervasive technology will also rise. There will be a rise in wireless devices in distributed networks. Mobile computing will grow where portable devices will be used to link to networks in diverse area codes. Grid computing will also come about. It is a form of cloud computing where users share processing power, memory and data storage.

### Potential changes in distributed networking that may affect AT&T company

###  With distributed networks, there will be flexibility something that AT&T will enjoy. It will also enjoy simplified management. It will experience big data analytics, cloud, internet of things and more mobility. AT&T will experience a more vibrant and on mandate tactic IT, which will enable it to implement more intellectual way out that avail real-time image of what is transpiring in the network. The company will be able to have faster decision-making.

###  Another change that will be experienced in the company is reduced congestion and high performance. The new network will be able to handle high capacity needs, mobile internet networks and internet of things demands. Lastly, the company will be able to have advanced security that will guard its network from security threats in real-time.

### Modified design and architecture, and the variations from the original design proposal that will be needed to back the new requirements.

###  AT&T new network design architecture implies that there will be more Ethernet cables needed and wireless access points too. To meet security needs, more emphasis will be laid on where data is stored, cloud-based solutions, the types of information that is to be accessed and the types of devices that will be included. Extra input will also be put on firewalls and access servers to provide extra security devoid of slackening operations.

###  To address redundancy, there will need to move away from a single server to at least two servers. The servers will be configured with fail-safes to allow one server to take over operations when the other dysfunctions or when there is maintenance to be undertaken. Given the fact the company will host its own web servers, a second connection will be needed. There will be a need for an extra switch and a wireless router which will ensure that downtimes are minimized.

###  The hardware, as well as software, will be standardized to ensure that the network operates efficiently. This will also reduce the prices that come with repairs, updates and maintenance. A regular appraisal of the present system and the software will be done frequently to govern that which will be standardized.

###  A disaster recovery plan will be incorporated. There will be necessities for backup power and measures that will be followed when the server or network crashes. There will be information on when to back data, how to go about it and where to store copies of the data. The disaster recovery plan comprises of how to handle building, office and metropolitan-wide disasters. The back up will be done weekly and the files stored in a secure location just in case there is a disaster like a fire.

###  It may not be easy to anticipate how big AT&T will be in several years to come. However, some allowances will be put for future growth. The network design will be allowed to factor at least 20% growth every year which will include a data backup system to switch ports

### References

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