

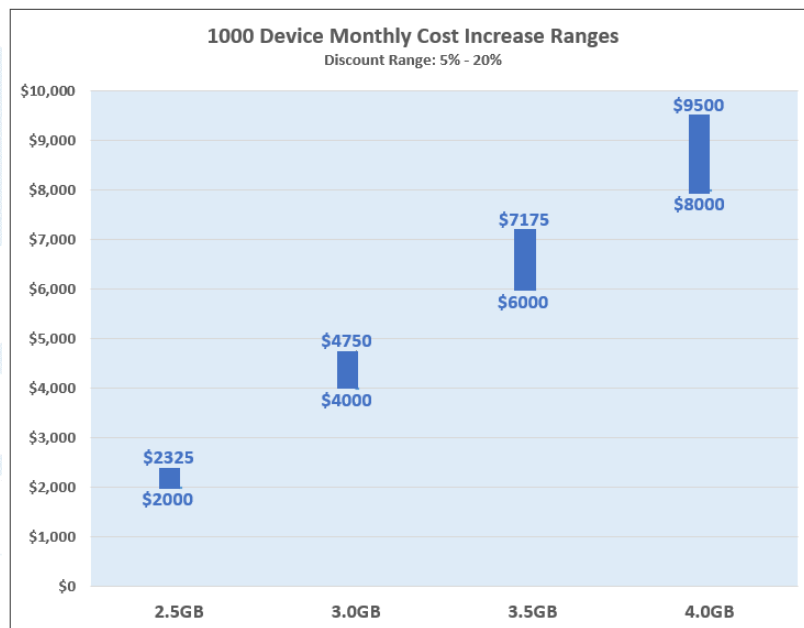
Flattening the Work-At-Home Data Surge

Government-enforced work-at-home orders across the United States have fueled a data usage spike. Few companies have been able to avoid a rise in data usage with most feeling pressure from the expected cost increases on already strained budgets due to the economic impact of the COVID-19 virus. The coming weeks and months will, no doubt, bring relaxation in work-at-home requirements. Many industry leaders hypothesize that companies are likely to adopt more work-at-home options to accommodate increased employee flexibility. The data problem will not likely be short-lived.

The Cost of Increased Monthly Data Usage

Carriers have stepped up with a variety of offers in the short term, including waiving all data overage charges. While this is helpful, it does not mean costs will decrease. Most carrier data pricing models run about \$5 (less contract discount) per additional GB consumed in a cycle. For users not on unlimited plans, this means a linear cost increase for every additional GB consumed. Assuming an average projected increase of 0.5GB/device on 1,000 pooled devices and a 5% carrier discount, this translates into \$2,325/month above current spending rates. If the overall average increase is 1.0GB/device, the cost grows to \$4,750/month. This simple example should provide a wakeup call for telecom organizations tasked with the care and management of company mobility solutions. The best cost/device on most carrier pools occurs when the average usage hovers around 2.0GB/month so we use that as a baseline in the graph below.

The chart below shows what actual cost increases will be from company average usage ranging from 2.5GB to 4.0GB. The spread accounts for contract discount ranges between 5% and 20%.





What Drives Work-At-Home Data Increases

In the absence of Internet service for employees compelled to work-at-home, companies have either supplied those employees with hot-spot capabilities or authorized the use of existing smartphone personal hot-spot access. While these scenarios will increase data usage, it can be viewed as a legitimate cost-of-business increase associated with work-at-home regulations.

The real problem lies, not in legitimate bandwidth usage increase from home, but the associated personal usage that has produced significant growth in these unusual times. While watching newscasts or other streaming video from work on the company intranet does not increase company costs, it does when that activity occurs on carrier network services either from a smartphone, personal hot-spot, MiFi, or other carrier data device from work or from home.

Impact of the Digital Lifestyle on Data Usage

The combination of handset features, application capabilities, video content richness, and network speed has transformed the smartphone into the remote control of our lives. As evidence, following are behaviors some people are no longer doing - reading a newspaper, listening to voicemail messages, deposits at the bank, sending faxes, buying movie tickets at a theater, or carrying a camera. Smartphones allow control of house climate, operation of televisions, and responding to a doorbell ring from anywhere.

Smartphones have made our lives more productive, especially in the business world. Mobile productivity apps have changed how we plan, execute, and interact with our peers and associates. Content can be exchanged rapidly, shared, and accessed from anywhere.

One of the most impactful changes has been the way media outlets deliver information and news. The TV has trained us to look for information via video content, and with the evolution of video streaming, much of what we consume digitally now includes video clips. For example, almost every news article has a video clip before the written content, and YouTube has become a conventional means to share video content for marketing, personal exchanges, and entertainment.

The impact of this seismic shift in data consumption is validated by current research and studies. Currently, audio and video streaming account for more than 60% of all data traffic. As the digital lifestyle continues to increase data consumption, there is an impending collision course with this behavior, and the cost of data for company-provided mobile devices.

Where it All Begins – Gathering Data to Assess the Problem

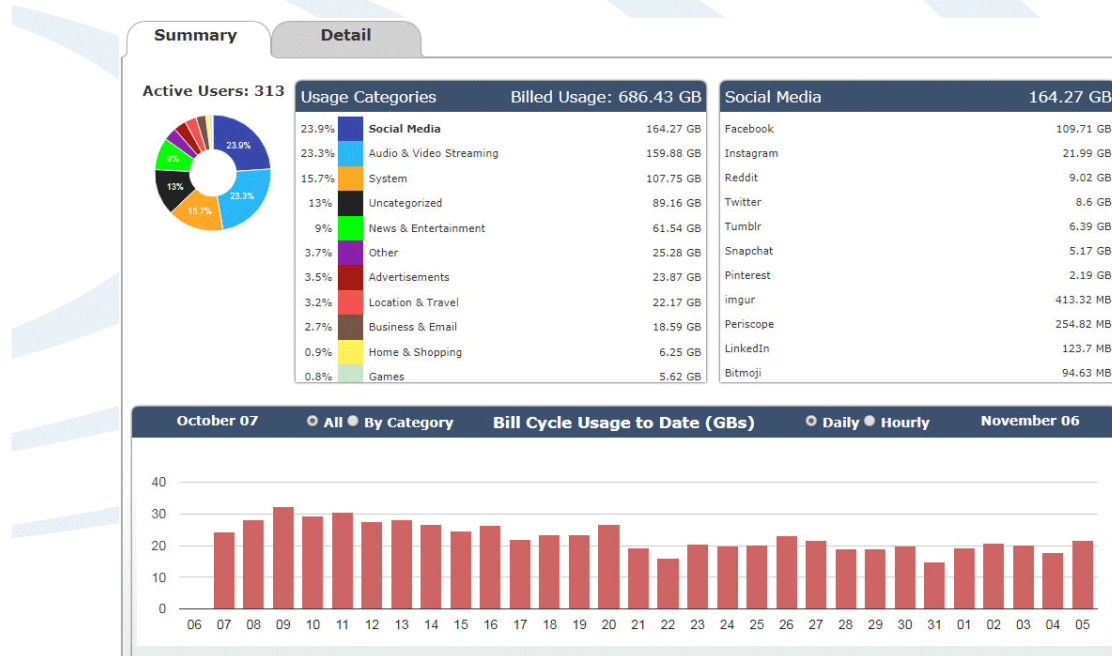
We have had a lot of discussions during this period of COVID-19 regarding data, and its relevance to modeling expected outcomes. To identify the breadth and depth of any problem,

gathering accurate and timely data is vital. Unfortunately, merely looking at quantities of data reported on carrier invoices for high usage individuals does not answer the most fundamental question – was this data usage necessary for business purposes? High usage reports raise suspicions, but when confronted on topics of high usage, employees might not even be aware their usage patterns produce such high usage, and for those that are savvy enough, they are not likely to admit to excessive personal usage.

The only way to understand if usage is appropriate is to have details documenting which sites were visited and how much data those sites consumed. Anything short of empirical usage data becomes a lengthy and challenging discovery process in which employees may have incentives to be less than candid about their actual behaviors.

Essential Visibility Beyond Standard Reporting

A new market segment has been emerging over the past five years of tools that can generate statistics on individual device usage. We call this segment Mobile Data Management (MoDM). There are only a small set of players in this arena. Some utilize an app that runs on the device, but this approach only supports smartphones and tablets, while others use technology that runs inside the carrier network, supporting any mobility device, including MiFi’s and routers. The MobilSense Data Management solution runs inside the carrier network, so it requires no software installation. Once onboarded on a target mobile device through a simple configuration change, data is collected and categorized in real-time and presented in a powerful display showing both an aggregated company-wide level as well as just for an individual user.





Data usage at the aggregate level can be instrumental in formulating company usage policies. Understanding category usage by time of day, such as streaming video and social media usage, can be illuminating and even surprising. Once policy parameters of appropriate business versus personal usage are defined, policy enforcement using MoDM becomes useful and timely. It is easy to focus on those who consistently violate usage policy. These are they who will benefit from additional education and enforced controls.

Changing Mobile Usage Behavioral Patterns

We like to think that most employees have a sense of corporate responsibility and duty. Many companies do not find it convenient to communicate monthly mobile usage and cost information from a carrier invoice to employees but without this information how can users be contributing proactive to company savings. MobilSense makes this task easy by providing summary email notifications simultaneously to employees and to management. One helpful process to further educate users includes providing browser login access to employees and managers so that they can navigate through usage patterns and recent history of total data usage by month. For many, heavy data usage is substantially reduced through employee education to proactively set up connections to WiFi on their mobile devices automatically from home, office or other sites frequented where WiFi is available.

Some employees may also look for gray areas as justification for usage they sense may fall outside the boundaries of mobile use policies. For example, there are those who feel justified in tapping into a company-provided hot-spot for home usage to save on subscribing to home internet services. Others may feel justified in streaming video or audio while on the job if they feel such diversions do not impact their job performance. For these employees, a strong motivation for more prudent usage can come from the understanding that direct line management pays attention to monthly reports on top personal data users in their departments.

Proactive Notifications Yield Results

With real-time data collection, MobilSense can generate mid-cycle email or text notifications to any defined threshold established for a given set of employees. These notifications can also include escalation alerts if an employee ignores earlier cautionary messages while exceeding established company guidelines. For example, if a company determines a specific set of employees in a defined job role shouldn't be using more than 3GBs of data per month, a series of notification escalations might be described as follows: First, a reminder at 2GBs that they are 2/3rds the way to their data limit. Second, an alert that they have surpassed their 3GB threshold and should limit further carrier data usage by utilizing WiFi. Third, an additional alert at 3.5GBs, indicating that management has been informed of their over-policy usage.

Today’s most significant impediment to controlling data usage is that users rarely have an idea that their usage exceeds policy limits and do not have an opportunity to make adjustments in the middle of a billing cycle. Most corrective actions today are applied after-the-fact when a billing cycle ends, and a Telco department is reviewing top user reports for the prior month’s invoice. At that point, the costs of over usage cannot be reclaimed. It is essential to empower employees with information that delivers more prudent mobile usage behavior at the moment the usage becomes excessive.

Selectively Apply Data Limitations

Limiting data usage for specific personal entertainment categories or capping overall data usage is an important final step on users who choose to ignore company guidelines and alerts. Policies can be defined from the outset of each month or can be triggered dynamically by escalating usage during the billing cycle. With access to the granular category usage as well as overall data usage, MoDM technology permits blocking of carrier data access on a device at the domain level or can enforce quota limits on all carrier data usage for a device. The enforcement of policy compliance can be achieved in an unattended fashion through automation. Reductions in employee entertainment usage can be accomplished with policies at individual and group levels by blocking access to entertainment sites, thereby forcing employees to utilize WiFi capabilities at home and at work. The result of this three-step process, “Learn, Inform, and Limit,” is more predictability in company data usage.


Policy	Threshold	Target			Category	Alert Type
		Emp	Mgr	Telco		
Default Office Worker Notification	2.0 GB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Total Data	Notification
Default Management Notification	2.0 GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total Data	Notification
Default Sale & Support Notification	1.0 GB	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Audio Streaming	Notification
Top User Notification	1.0 GB	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Audio Streaming	Quota
<input type="text"/> GB	<input type="text"/> GB	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Total Data	Quota

Integrating MoDM with Mobile Expense Management (MEM)

The purpose of a Mobile Data Management (MoDM) solution is cost containment. A standalone MoDM solution may not be able to align usage by invoice cycles accurately. It will not have rate



plan billing metrics to quantify specific cost savings linked to actual data reductions. What is required for a holistic approach to taming out-of-control entertainment usage is a combination of traditional Mobile Expense Management along with emerging MoDM capabilities. Only MobilSense combines these capabilities in a single integrated solution.

	TEM	MoDM	
Report Quantity and Time of Usage	✓		✓
Top User Reporting by Bill Period	✓		✓
Data Usage Trending & Analytics	✓		✓
Correlate Invoice Cost with Data Usage	✓		✓
Adjust Data Pools in Real Time	✓		✓
Report Unbilled Data in Real Time	✓		✓
Define Data Policy Thresholds Actions		✓	✓
Generate Real Time Alerts		✓	✓
Limit Data Usage by Thresholds		✓	✓
Unbilled Real Time Top User Reporting		✓	✓
Report Usage by website/application		✓	✓
Restrict Usage by Category		✓	✓
Cap Overall Data Usage by Policy		✓	✓
Sync Unbilled Data with Invoice Period			✓
Quantify Cost Savings by Device			✓

Conclusion

Companies today can only be successful in controlling rising data costs when they take advantage of the latest MoDM technologies. These proven solutions can help with the current work-at-home data surge but also over the long term as the digital lifestyle continues to cause data usage to rise.

For more information on how you can flatten the work-at-home data curve go to <https://www.mobilsense.com/work-from-home-data-growth>