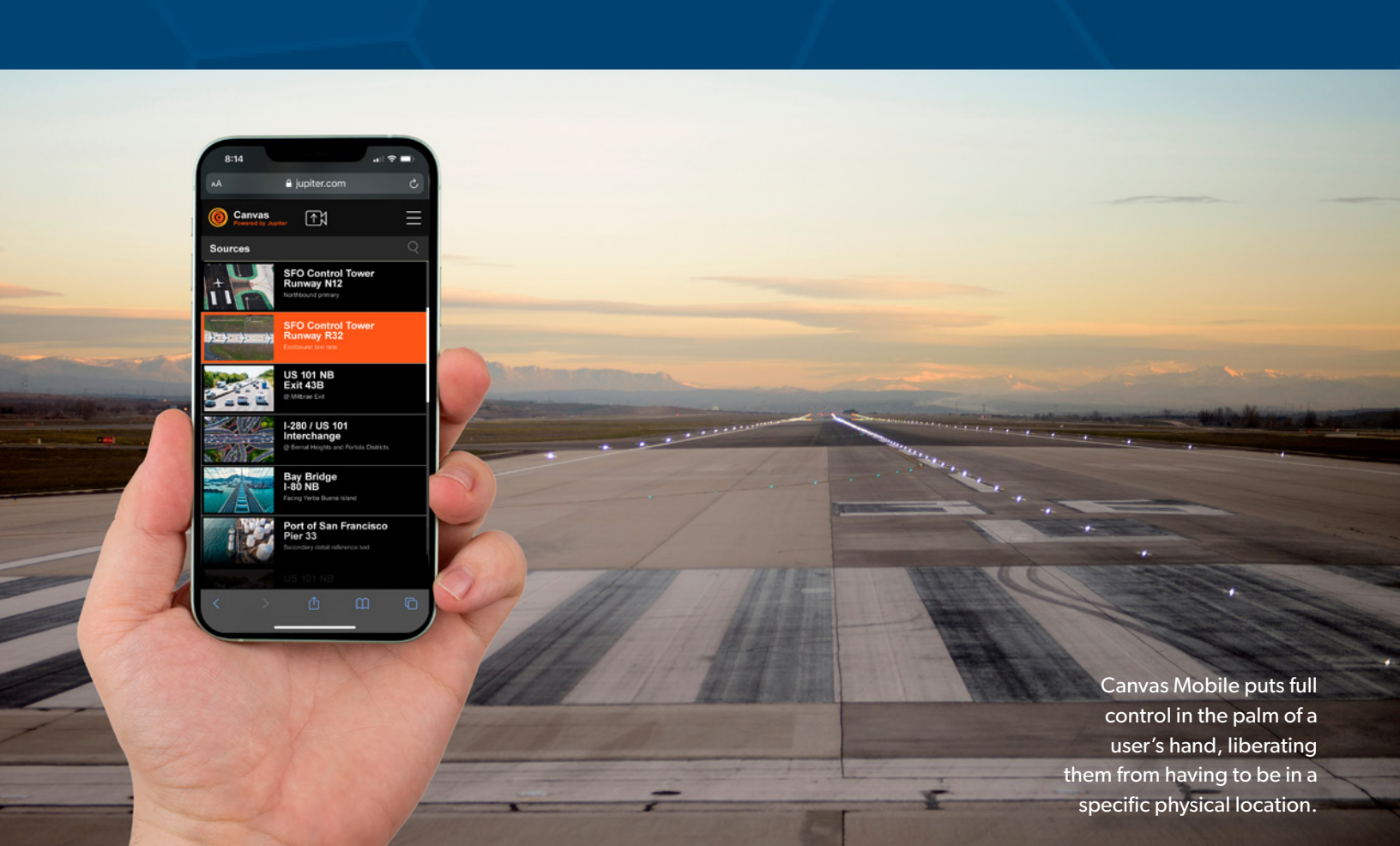# Bringing Command and Control to You

Jupiter

Canvas Mobile puts full control in the palm of a user's hand, liberating them from having to be in a specific physical location.

Bringing Command and Control to You

Jupiter's revolutionary Canvas Mobile will empower a spread out workforce to downstream and upstream from their personal devices in real time. *By Dan Ferrisi*

In a commercial AV industry that is forever evolving and adapting to meet user needs, one of the most powerful trends is the shift to bring-your-own-device (BYOD) functionality. Increasingly, we're seeing users who want to use their own devices (e.g., smartphones, tablets) to access content and perform duties that they'd otherwise have to be at an office PC or dedicated workstation to do. This trend encompasses commercial AV vertical markets that span from corporate enterprise, to education, to command and control. Jupiter Systems, a market leader in large-screen data-visualization experiences, has its finger on the pulse of customer demand to access the same content, no matter where people are, on their own devices. In the paragraphs that follow, *Commercial Integrator* chats with Iddo Hadany, senior product manager, and Craig Stumbaugh, director of sales, who share exciting news about revolutionary mobile enhancements to Jupiter's Canvas visualization software.

Expanding Closed Ecosystems

In Hadany's words, Jupiter believes it's important to expand once-closed command-and-control ecosystems. We'll spend much of this article exploring the company's efforts to empower mobile-device users, but the trend is far larger. Much as corporate enterprises have begun to make their collaboration spaces more diffuse by shifting away from one large meeting room, command-and-control environments are also decentralizing. Hadany cites the pandemic as a catalyst for proving a key point, saying, "Large teams don't necessarily need to be in the same space, or even on the same shift." For command-and-control specialists like Jupiter, that might mean more videowalls spread throughout campuses. As Stumbaugh describes it, "More sites with greater visibility versus one site overseeing the whole thing."

And visibility is a key concept with the ascendance of decentralization and BYOD. Far from shifting organizations away from videowall deployments, they need data-based insights now more than ever. After all, a more spread out workforce means incorporating more technology, sharing more content and navigating more logistical challenges. "Organizations need to manage that…need to have visibility and control," Stumbaugh explains. By utilizing Jupiter's data-visualization solutions, organizations have what Stumbaugh calls "a larger common operating picture." He adds, "They're really keying in on having more visibility into more areas of their organizations." Thus, as groups are

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empowering mobile-device-using team members, they're also empowering themselves to keep their fingers on the pulse.

Ongoing Evolution

In recent years, Jupiter has made a concerted effort to democratize how users engage with its Canvas visualization software. "We started with moving the Canvas software to a user interface with web tools," Hadany explains. By utilizing their web browser as a means of connecting to the Canvas server, the user was liberated from the need for professional equipment. The next natural step, then, is compatibility with users' mobile devices, a capability that Jupiter will unveil in Q3/22. Rather than operating through an app — a rather cumbersome method that requires the user to download the app and keep it updated — Jupiter opted for the simplest and most user-friendly approach: utilizing every mobile device's built-in web browser. As such, if a user wants to view all the sources in a command-and-control room, Hadany says, "You just need to have the URL of the server, and you get the list of sources available for downstream." It's all done at the tap of a finger.

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>
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Hadany's enthusiasm is palpable as he explains the robustness of Canvas Mobile's capabilities, emphasizing that it enables not only downstreaming (i.e., viewing content from the command-and-control room) but also upstreaming (i.e., using the mobile device's built-in front or back camera to push content out). Best of all, users can downstream and upstream simultaneously, viewing both feeds on their personal mobile device. "This is the biggest achievement that we've made," Hadany says with pride. "That means collaboration is happening live." What's more, Canvas Mobile is agnostic across browsers, suits both iOS and Android, and removes all practical limitations on how many mobile users can participate in the command-and-control environment. Canvas Mobile is streamlined, scalable and highly capable.

Speed and Security

Readers' minds are probably thinking about the two "S"s of mobile interaction — namely, speed and security. Jupiter has put a great deal of thought into both, achieving impressive results. IP streams are, of course, heavily dependent on the bandwidth of the network. If a mobile user is on 5G, Hadany explains, they will experience a second or two of delay when sending or receiving information. "Achieving a one-second or
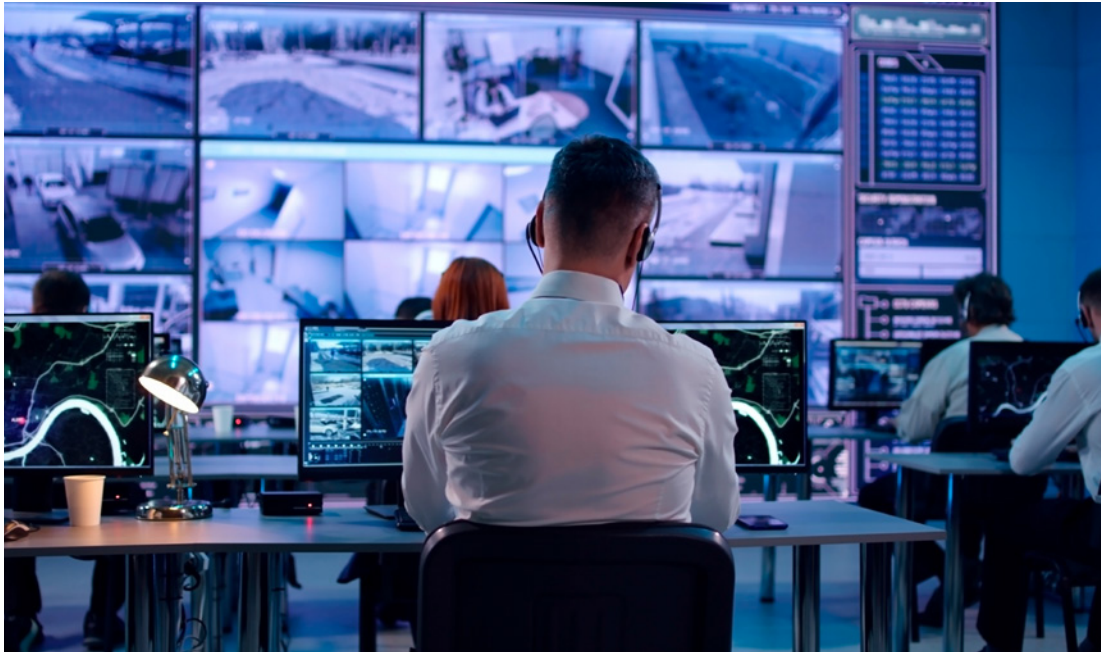
two-second delay over mobile is quite an achievement," he adds, pointing to the 20ms or 40ms delay one might expect for an entirely on-prem system. Testing is ongoing

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— Jupiter does not release a solution until it meets the company's rigorous standards — but Hadany says results to date are extremely promising. And he speaks knowledgably, given that he routinely logs into a VPN from Tel Aviv, Israel, and uses his personal mobile device to see sources from, and send his camera feed to, Jupiter headquarters in Hayward, Calif.

With respect to security, Canvas Mobile utilizes the HTTPS encryption of the web, which Hadany describes as "encrypting on the channel itself." This protection is in place across both iOS and Android, and it applies to both video downstream and upstream capabilities. "Every mobile device now has a chip that is doing encryption," Hadany explains. "So, we can actually ride on the encryption of the signals coming from the camera of the mobile, and the signal is already routed, encrypted, inside the encrypted channel." A login function increases the security level further, enabling administrators to make lists of approved/unapproved sources for individual users. This user-authorization mechanism ensures no one has access to content they oughtn't to see.

Although this level of security might not work for government clients that enforce a no-mobile environment, Stumbaugh says, it's very well suited to corporate clients. He

elaborates further, saying, "We've taken such care and been so detailed in maintaining the security of the content to each one of those endpoints. It lets IT be more at ease that we're not going to have inadvertent disclosure of content."

Rollout Imminent

As you read this, Jupiter is concluding its testing phase, having purchased dozens of various models of mobile devices and evaluated their performance with a dedicated test server. "It seems to be working really nicely," Hadany enthuses. Offering insight into the process, he says, "We're trying to get [the answer] to, 'Where is our limitation?' How many mobile devices, at the same time, on a single server, will be accepted and not create delay?" Hadany notes that, right now, tests are evaluating performance with 10 or 15 concurrent connections. He hastens to add, however, that it's possible to scale up user numbers by adding more mobile servers. "This is the torture test we are doing right now in order to get the spec done," Hadany says with a chuckle. Obviously, it is also depends on the quality of the network and the available bandwidth.

Stumbaugh amplifies that point, underscoring that anything with the Jupiter name attached to it must not only meet but also exceed expectations. "Any spec that we put out there, is a spec that we'll stand behind," he declares, adding that Jupiter has no desire to "run on the ragged edge." This aligns with the company's mission to optimize the experience at each endpoint.

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> — Craig Stumbaugh, director of sales, Jupiter

According to both Hadany and Stumbaugh, the initial rollout will be deliberate, so Jupiter can assess Canvas Mobile's acceptance and observe any real-world limitations (i.e., evaluate the transition from a dedicated test switch to an enterprise switch). However, upon its release, clients with existing deployments will quickly benefit. "Existing customers will be able to add the Canvas Mobile piece to their existing infrastructure and gain that almost immediately," Stumbaugh states. For newer clients, the benefits of mobile enablement might take a few months longer, given the long gestation periods that new command-and-control applications typically entail. Mobile capabilities are included with Jupiter's Canvas software. So, the only additional cost would involve purchasing supplemental licenses (sold separately) to scale up the application for a larger number of users.

Evident Enthusiasm

Longtime reporters will tell you that it's easy to discern when vendors are truly enthusiastic about their latest offerings. Throughout our conversation, Hadany and Stumbaugh exuded excitement about Canvas Mobile and the capabilities it will unlock. "It's going to expand the way Canvas is utilized in the sense that it's not just going to be workstations and laptops," Stumbaugh emphasizes. Indeed, Jupiter's long-term plan is to stretch beyond mobile phones and move toward enabling devices like tablets. It's fair to say that, for command-and-control professionals, an exciting, liberating BYOD future is afoot. "In essence," Stumbaugh concludes with a smile, "the client support of Canvas is limitless." ◉

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