



User Story: How NorthBay Healthcare Ensures Cerner and Citrix Applications are Always Available



“Goliath Technologies gives us complete visibility into the end user experience from the time they logon to Cerner through their use of the application, in real time, so we stay ahead of performance issues that can impact our users.”

– Chris Timbers, VP & CIO, NorthBay Healthcare

NorthBay Healthcare is a leading healthcare provider based in Solano County, California. Delivering the highest level of care possible is the core focus of NorthBay, and to help deliver on that focus, Cerner and Citrix are relied upon throughout the health system.

Cerner, Citrix, and the End User Experience

When healthcare practitioners experience end user performance issues such as application logon slowness, crashes, delivery errors, or in-session performance degradation, the actual delivery of patient care can be impacted. As with any application delivery infrastructure, especially using Cerner and Citrix, performance and quality of the end user experience are critical to success.

In healthcare this is especially true, as these systems and applications are relied upon to ensure that patients receive the care they require at the time it is needed. In order to deliver a great end user experience to the clinicians at NorthBay, system administrators have to manage some of the unique challenges listed below.

- **Speed of access to Cerner and Citrix:**



Physicians see patients every 15 minutes, so a 2 minute delay when trying to access Cerner is too long to wait. They also log on from different locations. Speed of access to these applications is critical to ensure that time is spent providing healthcare service, and not waiting for application sessions to launch.

- **Identification of Cerner or Citrix performance degradation:**



The time frame in which care must be delivered to patients is finite, and degraded performance will severely impact this. As a result, it is critical that performance “slowdowns” are identified early, before the ability to deliver services is impacted.

- **Cerner and Citrix proactive application availability testing:**



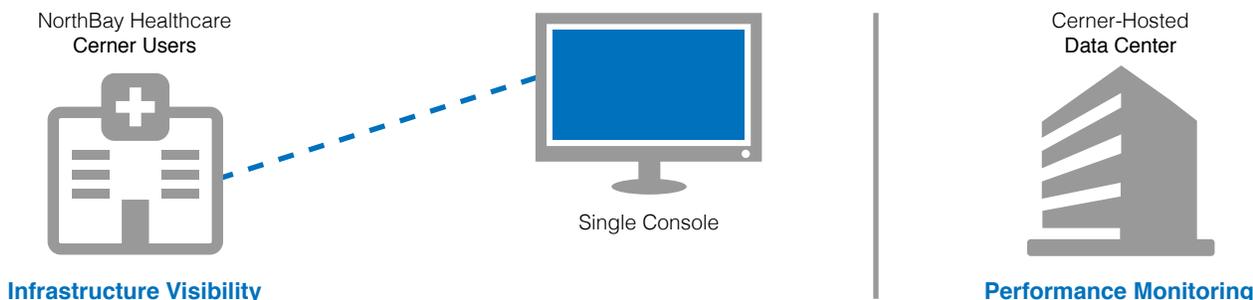
The Cerner and Citrix logon process is the primary step to accessing mission critical applications. It is also highly complex and relies on many components to successfully complete. Having the ability to provide assurance that login and access will always be available, as well as efficient, is paramount.

- **Collaboration:**



The primary application delivered to healthcare providers at NorthBay is Cerner using Citrix. This application is hosted by Cerner. NorthBay had visibility into their own infrastructure while Cerner actively monitored application performance in the data center. However, there was no effective end-to-end performance monitoring from the data center to the desktop.

Deployment Without Goliath



The Prescription: Proactive EUE Monitoring and Management

After an exhaustive search to identify a solution that fit NorthBay's unique visibility challenges, Goliath Technologies became the clear choice. The NorthBay team elected to deploy Goliath Performance Monitor and Goliath Logon Simulator with out-of-the-box functionality to support Citrix and Cerner.

It was understood that implementing Goliath Performance Monitor in just the NorthBay environment was not going to be sufficient enough to provide the end-to-end visibility that they required. As a result, a plan was developed to deploy Goliath Performance Monitor on Citrix servers running Cerner applications. The fully integrated solution encompasses the entire application delivery architecture. Goliath Performance Monitor provided the following capabilities to the administrators and support staff at NorthBay:

- End-to-end visibility allowing for performance and availability metrics from the end users perspective at the hospital location. This data can be trended in real time and historically.
- Visibility into both on-premise and Cerner-hosted applications and servers.

Cerner, XenApp and XenDesktop Sessions – In Real Time

XA Server Name	Session	State	UserAccount	Client Name	Client Address	Version	Logon	ICA Latency
...	ICA-TCP#10	Active	...	STMORSPRT1	10.86.72.129	14.2.100.14	8 secs.	0 ms.
...	ICA-TCP#13	Active	...	TMCOPL29670	10.86.17.77	14.2.100.14	6.8 secs.	38 ms.
...	ICA-TCP#17	Active	...	TMCOMS728703	10.115.19.232	14.2.100.14	6 secs.	18 ms.
...	ICA-TCP#19	Active	...	DSHCATH004	10.186.3.63	14.2.100.14	7.5 secs.	61 ms.
...	ICA-TCP#17	Active	...	SUR-92L6GX1	10.6.2.12	12.3.0.8	7.6 secs.	9781 ms.
...	ICA-TCP#30	Active	...	DHLONURWOW04	10.75.31.88	12.3.0.8	6.8 secs.	47 ms.
...	ICA-TCP#24	Active	...	BILLGUNIT7	192.168.1.110	14.2.0.10	9.6 secs.	608 ms.
...	ICA-TCP#1	Active	...	DHLOSERTREAT2	10.75.30.12	14.2.100.14	6.4 secs.	227 ms.
...	ICA-TCP#30	LoggedOff	...	GHP3-PC	10.10.11.10	11.0.0.5357	6.8 secs.	390 ms.
...	ICA-TCP#17	Active	...	DSHWERP007	10.186.3.81	14.2.100.14	7.9 secs.	53 ms.
...	ICA-TCP#26	Active	...	GWUONUR3S08	10.86.88.79	12.3.0.8	7.7 secs.	47 ms.
...	ICA-TCP#1	Active	...	ECARE148	10.50.1.77	14.4.0.8014	7.5 secs.	251 ms.
...	ICA-TCP#7	Active	...	FDRLCMGTERESAL	10.186.131.149	12.1.14.1	10.4 secs.	250 ms.
...	ICA-TCP#13	Active	...	TMCDTHG32217	172.20.1.64	9.00.32649	7.6 secs.	15 ms.
...	ICA-TCP#38	Active	...	ALHS-RDS1	192.168.14.17	14.2.0.10	7.4 secs.	216 ms.
...	ICA-TCP#23	Active	...	WRMLMSG3W03	10.105.107.35	14.1.200.13	7.6 secs.	55 ms.
...	ICA-TCP#11	Active	...	HCP4244	172.21.231.169	12.3.0.8	7.4 secs.	63 ms.

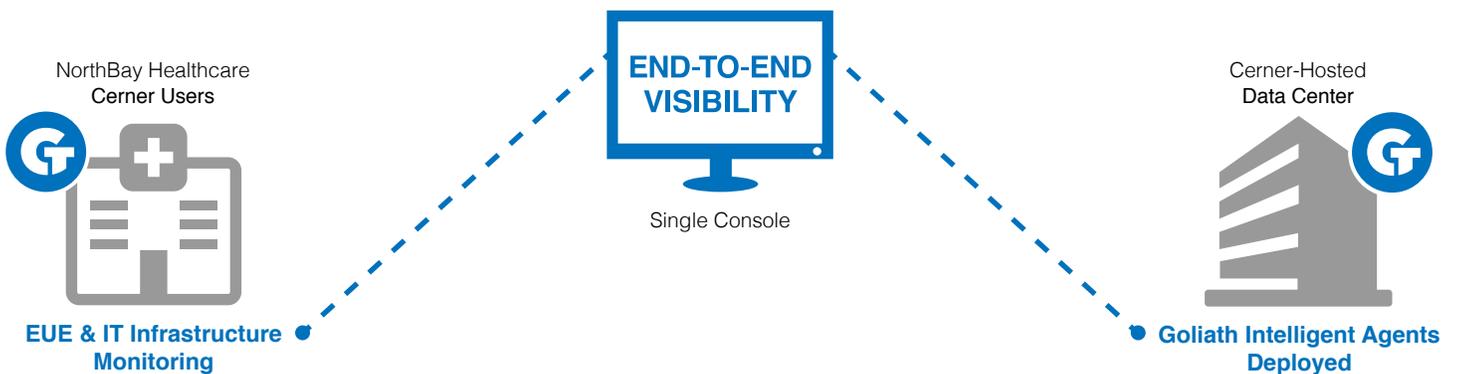
The Results

Once the product was deployed, NorthBay system administrators had true end-to-end visibility. They were provided with an in-depth view into the entire user workflow, regardless of location. Goliath monitoring capabilities, combined with Cerner's remote hosting technologies and services, now provides NorthBay with advanced warning of potential end user experience issues and evidence of root cause to prevent future issues.

To compliment end-to-end visibility, NorthBay also wanted to guarantee that clinical applications would launch when physicians and healthcare workers attempted to gain access. As stated earlier, with patients scheduled every 15 minutes the applications needed to launch immediately when needed. Goliath Logon Simulator was deployed to proactively log on to applications and alert IT administrators to logon failures or slowness before the end user community is impacted.

Having the Goliath solution deployed on premise, where clinical applications are hosted, provides complete end-to-end visibility that previously could not have been accomplished at NorthBay. Now, NorthBay can complement the quality monitoring and management that CernerWorks provides in the hosted facility with their own, on premise, end user experience monitoring and management.

Deployment with Goliath



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